

PRESERVATION  
FOUNDATION  
OF PALM BEACH



# FLORIDA'S PLANTS AND THE NATIVE AMERICANS

Pan's Garden Education  
Teacher's Manual

A Project of the Preservation Foundation of Palm Beach  
386 Hibiscus Avenue, Palm Beach, Florida

# TABLE OF CONTENTS

<b>PROGRAM INFORMATION</b>	<b>PAGE</b>
About Pan's Garden.....	1
Directions to Pan's Garden.....	2
Free Transportation .....	3
Field Trip Information .....	4
Your Visit to Pan's Garden .....	5
What Will Students Experience? .....	6
To Prepare For This Program .....	7
Florida's Sunshine State Standards.....	8
<b>BACKGROUND INFORMATION (Plants and Gardens)</b>	
Plants Are the Basis of Life.....	9
What Is A Plant? .....	9
Why Are Plants Important? .....	9
What Are The Parts of A Plant? .....	10
Plant Facts .....	10
Five Different Types of Plants in Pan's Garden.....	10
What Is The Purpose Of A Garden? .....	10
What Is A Botanical Garden?.....	11
What Is Pan's Garden? .....	11
Why Do We Want to Preserve Florida's Native Plants? .....	12
<b>HISTORY OF FLORIDA'S FIRST PEOPLE</b>	
Time Line .....	13
Map of Tribal Territories .....	15
Early Florida .....	16
The New World.....	16
A Lesson for The Future .....	20
Who Were Florida's First People? .....	21
What Happened To The Native Floridians? .....	21
Appearance .....	22
Leadership.....	22
Homes and Villages .....	23
Food .....	23
Tools and Weapons .....	24
Florida Native Art.....	24
Beliefs .....	24
<b>FLORIDA'S NATIVE TRIBES</b>	
Ais.....	25
Apalachee.....	26
Calusa .....	28
Jaega .....	29
Mayaimi.....	29
Tequesta.....	30
Timucua .....	32
Seminole .....	34
The Seminole Today .....	35

# TABLE OF CONTENTS

## **ETHNOBOTANY**

What Is Botany? .....	37
What Is Ethnobotany.....	37
How Living Things Are Classified .....	38
Who Was Carolus Linnaeus? .....	38
What's All This Latin About? (Activity) .....	39
The Latin Name Game (Activity) .....	40
Classifying Objects (Activity).....	41
Classifying Leaves (activity).....	42
Ethnobotanical Directory.....	43

## **THE NATIVE PLANTS IN PAN'S GARDEN**

Plant Directory .....	47
Plants from American Beautyberry to Yaupon Holly .....	48-80

## **STUDENT ACTIVITIES - grades K-2**

Making Pottery .....	81
Observe a Tree .....	83
How Do We Use Trees.....	84

## **STUDENT ACTIVITIES – grades 3-8**

Seminole Recipes .....	85
Timucua Words .....	87
A Walk in Harmony- A Timucua Legend .....	88
Timucuan Beliefs That Teach Common Sense .....	90
Is There a (Seminole) Doctor in the House? .....	91
Changes in Latitudes, Changes in (Food) Attitudes .....	95
What Do They Mean? .....	100
Things to Do .....	100
Plant Fantasy Island .....	101
Pan's Garden Crossword Puzzle.....	102
Pan's Garden Word Scramble .....	104
Check Your Knowledge.....	106
Scorecard for the Stick Game.....	107

<b>GLOSSARY.....</b>	<b>109</b>
----------------------	------------

<b>BIBLIOGRAPHY.....</b>	<b>115</b>
--------------------------	------------

<b>STAFF DEVELOPMENT POINTS INFORMATION.....</b>	<b>117</b>
--	------------

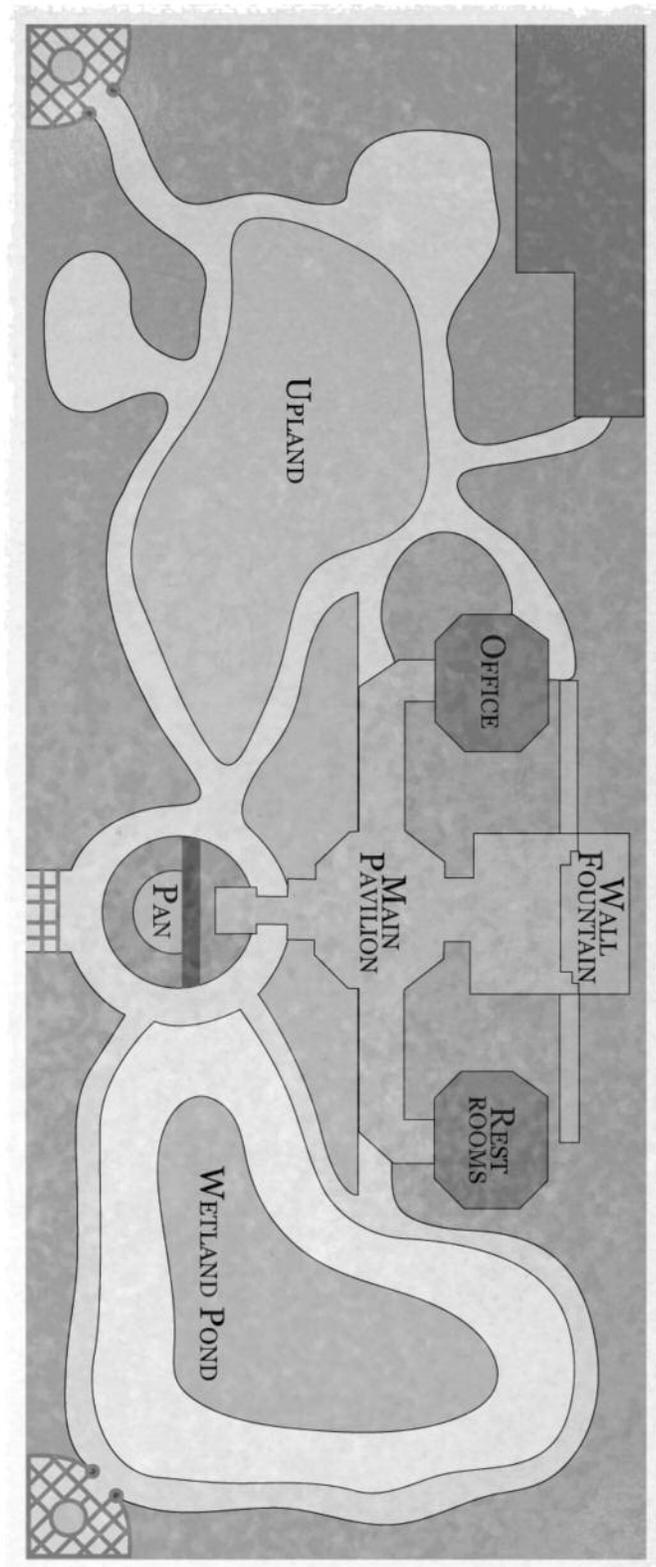
<b>ACTIVITY AND FORMS FOR IN-SERVICE POINTS.....</b>	<b>118</b>
--	------------

# PROGRAM INFORMATION

**GREEN PAGE**

Pan's Garden is a botanical garden devoted to Florida's native plants opened in 1994, and is a project of the Preservation Foundation of Palm Beach. The Garden takes its name from the bronze statue of Pan of Rohallion, designed by Frederick MacMonnies in 1890. In Greek mythology, Pan was the God of Shepherds, whose job was to protect and guard the flocks. The statue graces the Garden's entrance pool and is depicted in idealized human form playing an enchanted flute, called a syrinx, which is an ancient Greek instrument of shepherds.

Pan's Garden's heavily planted area of more than one-half acre showcases more than 300 species of Florida native plants, many of which are endangered. The Garden incorporates upland and wetland areas designed to display indigenous trees, shrubs, grasses and wild flowers in naturally occurring relationships to each other. Varieties of native species are planted in seasonal display areas to highlight possible choices for home and school landscaping. Pan's Garden has also become home to a wide array of birds, butterflies and other creatures which await discovery at every turn.



**Pan's Garden Site Plan**

## DIRECTIONS TO PAN'S GARDEN

386 Hibiscus Avenue, Palm Beach

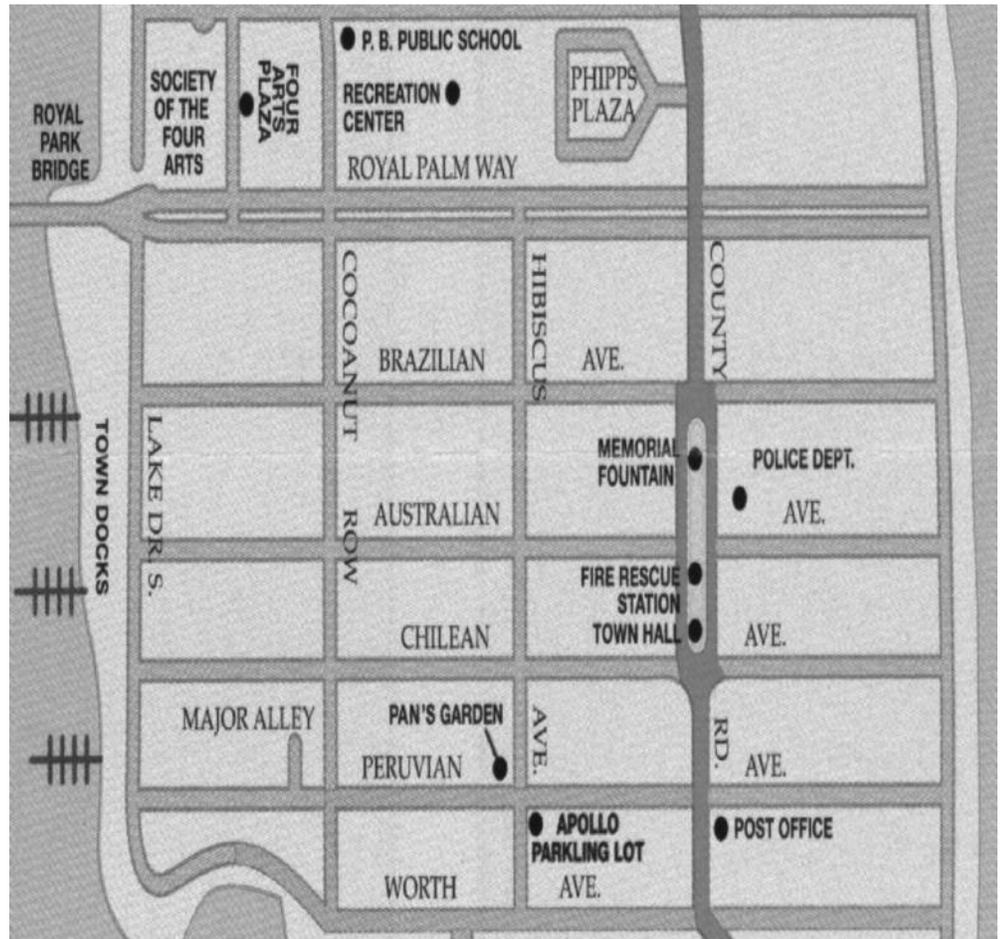
*Please make copies of these directions for every driver.*

Pan's Garden is located in Palm Beach, at 386 Hibiscus Avenue, between Chilean and Peruvian Avenues; one block north of Worth Avenue (see map).

From I-95, take the Okeechobee Boulevard East Exit through West Palm Beach. Cross the Intracoastal Waterway via the Royal Palm Bridge (middle bridge) onto Royal Palm Way.

Travel east on Royal Palm Way to Hibiscus Avenue. Turn right (south) onto Hibiscus Avenue and proceed three blocks. The main gate of Pan's Garden is located on Hibiscus Avenue, just past the Chilean Avenue intersection. The Garden is surrounded by a coral colored wall.

Parking is extremely limited. There is adequate space for one school bus or five vehicles, which may remain parked at the Main Entrance, **directly in front of the Garden**, for the duration of the visit. Additional metered one-hour parking is available on the side streets.



## DEPARTURE INSTRUCTIONS

Proceed south to the intersection of Hibiscus and Peruvian Avenues. Turn left onto Peruvian Avenue and travel east one block to South County Road. Turn left (north) onto South County Road and travel to the Royal Palm Way intersection. Turn left onto Royal Palm Way and proceed west to West Palm Beach.



THE SCHOOL DISTRICT OF  
PALM BEACH COUNTY, FLORIDA

**CONSTANCE TUMAN-RUGG, Ed.D**  
Assistant Superintendent

**ANN KILLETS**  
CHIEF ACADEMIC OFFICER

LIZ PERLMAN, DIRECTOR  
DEPARTMENT OF K-12 CURRICULUM  
3300 FOREST HILL BLVD., C-206  
WEST PALM BEACH, FL 33406-5813  
Ph: 561-357-1105 Fax: 561-434-8091

June 23, 2008

Preservation Foundation of Palm Beach  
Attn. Lynne Charter  
386 Hibiscus Avenue  
Palm Beach, FL 33480

Dear Arts Provider,

Congratulations! Your arts agency has been selected to receive District funded busing for the field experiences you deliver to the students of the Palm Beach County School District. You and your staff have done an excellent job of developing the appropriate materials for the teacher's Professional Development, pre and post activities for the students, and educational guides for all that attend your venue.

Each public school will receive the School District's Bulletin notifying them of the approved providers and procedures for field experiences and bus transportation. You will be able to access this bulletin on the Palm Beach County Cultural Council web site [www.pbccc.org](http://www.pbccc.org).

With your help, this educational activity has progressed to a new level. We will continue to improve this educational opportunity for teachers and students. Your hard work and willingness to adapt identifies your agency as a leader in arts education.

Attached you will find your Field Experience Rubric which lists the criteria required for approval and provides you with feedback on your organization's submission.

If you have further questions, please feel free to call me at (561) 434-8161.

Sincerely,

Dr. Tom Pearson, Administrator  
K-12 Arts Education  
Department of K-12 Curriculum

TP/dso

## **SCHEDULING:**

Reservations are limited and booked months in advance. Please contact the Education Department of the **Preservation Foundation of Palm Beach** at **(561) 832- 0731**

## **GROUP SIZE:**

Pan's Garden programs are limited to one class from one school per day, approximately 30 students, **one teacher and one chaperone**. Kindly give advance notice of special needs student accommodations.

## **TIME:**

The program runs from 10:00 a.m. until 12:00 noon. Please be prompt, as late arrival will shorten your program. If you are running late, please contact the Preservation Foundation at (561) 832-0731.

## **WEATHER:**

To ensure everyone's safety and comfort, educational programs will not be held during periods of heavy rain or electrical storms. If these conditions arise the morning of your visit, **please contact us** to determine if we will continue as scheduled. If inclement weather causes a cancellation, every effort will be made to reschedule your group.

## **COST:**

Pan's Garden educational programs are **free of charge**. The only contribution is that your class arrives fully prepared and enthusiastic!

## **TRANSPORTATION:**

Transportation must be provided by the school. **Limited parking** is available for one school bus or five vehicles directly in front of the Garden's main gate at 386 Hibiscus (see map). **Please make a copy of directions and map for each driver.**

## **DRESS:**

All educational sessions at Pan's Garden are outdoors. Students should wear walking shoes and clothes appropriate for the weather (including light rain).

## **NAME TAGS:**

For identification purposes and to personalize the experience, please have students wear name tags.

## **RESTROOMS:**

Restrooms are available. Teacher/chaperone must monitor students' use.

## **LUNCH:**

We invite you to bring a picnic lunch and enjoy your meal in the Garden **after** the program; lunch is on your own time. There are no vending machines. Please leave lunches/coolers on the bus or in vehicles during the program, as there is no refrigeration available and we have lots of hungry ants!

## **DISCIPLINE:**

Teachers are responsible for students' behavior- remain with your students at all times.

Please inform students that, unless instructed by our staff, they will not be allowed to touch, take, or eat any plant material. It is not unusual for a plant listed as food to also possess poisonous or medicinal properties! Students must walk and stay on paths at all times. For safety reasons, students who do not adhere to these rules will not be allowed to continue participation in the program.

## **FURTHER INFORMATION:**

If you have any questions regarding scheduling or course content, please contact the Education Department at the Preservation Foundation of Palm Beach at (561) 832-0731

*“Florida’s Plants and the Native Americans”* is a hands-on discovery program developed to focus on the relationship between Florida’s Native American tribes and the indigenous plant species that supported the Native American lifestyle. This combination of historical and biological education is known as ethnobotany. Not only does the program provide the students with a strong historical background of their state’s early Native American history, it also allows them to understand the many uses of plants and the importance of maintaining our native plants today through interactive activities provided in the program.

This manual is intended to help you familiarize your students with what they will encounter at Pan’s Garden. To ensure maximum benefit, a preliminary understanding of the session’s content will greatly enhance students’ experience.

It is requested that teachers complete a post-visit questionnaire prior to departure. This will assist the Preservation Foundation in its endeavor to constantly refresh and improve its programs, as well as satisfy curricular standards. There is no charge for either the Garden visit or this manual, but we do ask that you help us provide a meaningful experience by preparing your classes thoroughly and by sharing your feedback. We look forward to having your students interact with us through questions and comments during their visit.

## What Will Students Experience During Their Visit?

They will...

- Discover an award-winning native plant garden
- Learn a brief history of Native Americans in Florida
- See and learn about selected native plants and their habitat
- Examine ways in which life and culture of Native Americans was influenced by their environment
- Discuss our present relationship with nature and the need to preserve our native plants

To accomplish these goals we will:

- Outline the history of Native Americans in Florida.
- Discuss how plants were used to meet specific needs (food, medicine, shelter, etc.)
- Tour Pan's Garden to highlight an assortment of plants used by Native Americans
- Divide students into "tribes" and play a survival game based on tour information
- Sum up and reinforce the importance of plants and the need to preserve and protect our native plants

## TO PREPARE FOR THIS PROGRAM:

Preparation is required in order to participate in Florida's Plants and the Native Americans experience at Pan's Garden.

This Teacher's Guide has been provided for you and your students to prepare for the unique field experience. It is important that students gain a foundation of background knowledge to enhance their Pan's Garden educational experience and to arrive knowing what to expect and what is expected of them.



Included are guidelines for the visit, valuable background information, early Florida history, pre-and post-visit activities for a variety of grade levels, staff development information and much more. The Florida's Plants and the Native Americans program was developed utilizing the Florida Sunshine State Standards for Florida History and Science as reference.

1. Explain the design of Pan's Garden- it represents three distinct ecosystems found in Florida (see What is Pan's Garden?)
2. Discuss the terms botany and ethnobotany - be sure students understand fully their meanings
3. Assign each student a plant from the Ethnobotanical Directory, which will be "their" plant to research. Students should be very knowledgeable about the uses of **all of the plants listed in the manual** by the time of their visit to Pan's Garden. A survival game based on this plant information is a large and vital part of this hands-on experience. The plant descriptions in this manual help serve as informational material. This exercise could be a writing assignment (research paper) to be conducted utilizing the school's library or the internet. Each student will be asked to give a very brief oral report on their plant during the Garden tour.
4. Review terms listed in the glossary

### Sunshine State Standards Florida's Plants and the Native Americans

(Includes teacher manual and program activities)

#### Social Studies

<u>Grades K-2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
SS.A.1.1.1	SS.A.1.2.1	SS.A.1.3.1
SS.A.1.1.2	SS.A.1.2.2	SS.A.1.3.2
SS.A.2.1.1	SS.A.1.2.3	SS.A.2.3.1
SS.A.2.1.2	SS.A.2.2.2	SS.A.2.3.2
SS.A.2.1.3	SS.A.2.2.3	SS.A.2.3.4
SS.A.3.1.2	SS.A.2.2.6	SS.A.2.3.5
SS.A.3.1.4	SS.A.3.2.4	SS.A.2.3.6
SS.A.5.1.4	SS.A.4.2.1	SS.A.3.3.1
SS.B.1.1.1	SS.A.4.2.2	SS.A.3.3.2
SS.B.1.1.2	SS.A.6.2.1	SS.A.4.3.4
SS.B.1.1.4	SS.A.6.2.4	SS.A.6.3.1
SS.B.2.1.1	SS.A.6.2.5	SS.A.6.3.2
SS.B.2.1.2	SS.A.6.2.6	SS.A.6.3.3
SS.B.2.1.4	SS.B.1.2.1	SS.A.6.3.4
SS.D.1.1.1	SS.B.1.2.2	SS.B.1.3.1
SS.D.2.1.1	SS.B.1.2.5	SS.B.1.3.2
	SS.B.2.2.2	SS.B.1.3.3
		SS.B.1.3.4
		SS.B.1.3.5
		SS.B.2.3.1
		SS.B.2.3.2
		SS.B.2.3.3
		SS.B.2.3.4
		SS.B.2.3.6

#### Science

<u>Grades K-2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
SC.G.1.1.2	SC.G.1.2.1	SC.G.1.3.2
SC.G.1.1.3	SC.G.1.2.2	SC.G.1.3.3
SC.G.1.1.4	SC.G.1.2.3	
SC.G.2.1.1	SC.G.2.2.1	
SC.G.2.1.2	SC.G.2.2.2	
SC.H.1.1.3	SC.G.2.2.3	
	SC.H.1.2.2	
	SC.H.1.2.3	
	SC.H.1.2.4	

#### Physical Education

<u>Grades K-2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
PE.A.1.1.1	PE.A.1.2.4	PE.B.2.3.3
PE.A.1.1.3	PE.A.2.2.2	PE.B.2.3.4
PE.C.1.1.1	PE.B.2.2.2	PE.C.1.3.1
PE.C.1.1.2	PE.B.2.2.3	PE.C.1.3.2
PE.C.2.1.2	PE.C.1.2.2	
PE.C.2.1.3		

#### Theatre

<u>Grades K2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
TH.A.1.1	TH.A.1.2.1	TH.C.1.3.1
TH.A.1.2	TH.C.1.2.1	TH.C.1.3.2
	TH.C.1.2.2	
	TH.C.1.2.3	

#### Language Arts

<u>Grades K 2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
LA.A.1.1.1	LA.A.1.2.1	LA.A.1.3.1
LA.A.1.1.2	LA.A.1.2.2	LA.A.1.3.2
LA.A.1.1.3	LA.A.1.2.3	LA.A.1.3.3
LA.A.2.1.1	LA.A.1.2.4	LA.A.1.3.4
LA.A.2.1.3	LA.A.2.2.1	LA.A.2.3.1
LA.B.1.1.1	LA.A.2.2.5	LA.A.2.3.2
LA.B.1.1.2	LA.A.2.2.8	LA.A.2.3.5
LA.B.2.1.1	LA.B.1.2.1	LA.A.2.3.6
LA.B.2.1.2	LA.B.1.2.2	LA.B.1.3.1
LA.C.1.1.1	LA.B.2.2.3	LA.B.1.3.2
LA.C.1.1.3	LA.B.2.2.5	LA.B.2.3.1
LA.C.1.1.4	LA.B.2.2.6	LA.B.2.3.2
LA.C.2.1.1	LA.C.1.2.1	LA.B.2.3.3
LA.C.2.1.2	LA.C.1.2.2	LA.C.1.3.1
LA.C.3.1.1	LA.C.1.2.3	LA.C.1.3.4
LA.C.3.1.2	LA.C.1.2.4	LA.C.2.3.1
	LA.C.1.2.5	LA.C.3.3.2
	LA.C.2.2.1	LA.C.3.3.3
	LA.C.2.2.2	LA.D.1.3.1
	LA.C.3.2.1	LA.D.1.3.2
	LA.C.3.2.2	LA.D.1.3.4
	LA.D.1.2.1	LA.D.2.2.1
	LA.D.1.2.2	

#### Mathematics

<u>Grades K2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
MA.A.3.1.1	MA.A.3.2.1	MA.A.3.3.1
MA.A.3.1.3	MA.A.3.2.3	MA.A.3.3.3

#### Visual Arts

<u>Grades K2</u>	<u>Grades 3-5</u>	<u>Grades 6-8</u>
VA.B.1.1.1	VA.B.1.2.1	VA.B.1.3.1
VA.B.1.1.2	VA.B.1.2.2	VA.B.1.3.2
VA.B.1.1.3	VA.B.1.2.3	VA.B.1.3.3
VA.B.1.1.4	VA.B.1.2.4	VA.B.1.3.4
VA.C.1.1.1	VA.C.1.2.1	VA.C.1.3.1
VA.B.1.1.2	VA.C.1.2.2	VA.C.1.3.2

# BACKGROUND INFORMATION

*PLANTS*  
&  
*GARDENS*

**GREEN PAGE**

## Plants and Gardens

### Plants are the basis of all life on Earth:

- They take in carbon dioxide and give off oxygen
- They help to build soil and prevent land erosion
- They are the primary source of food for many living creatures
- They provide habitat for a diverse number of species

### What is a Plant?

Plants are made up of **CELLS**. Cells are the basic unit of life. Plant cells differ from animal cells because they have a cell wall. The cell wall is a nonliving rigid wall that surrounds the plasma membrane and encloses and supports the cells of most plants, fungi and algae.

Plants produce their own food through a process called **PHOTOSYNTHESIS**. They take in **CARBON DIOXIDE** (CO<sub>2</sub>) and water (H<sub>2</sub>O). **CHLOROPLASTS** are the functional units where photosynthesis takes place. These cells contain **CHLOROPHYLL** which trap the solar energy which is needed to convert the carbon dioxide and water into **GLUCOSE**, which is food for the plant. **OXYGEN** is released into the air as a by-product of photosynthesis.

### Why Are Plants Important?

Plants are the basis of life on the whole Earth! Plants live almost everywhere in the world. They grow in the cold of the Polar Regions, the heat and dryness of the desert, in the waters of the oceans and on the peaks of mountains. Plants determine what and if animal life will be present in an area.

Plants are beautiful. They produce flowers that give humans pleasure through the sense of sight, smell and touch. In the process, they carry on their own life and their reason for being (reproduction). Plants are interesting. When you take time to look at them, you can see they have amazing and intricate structure. They are marvelous at adapting and surviving under very diverse environmental conditions.

In both primitive and industrial societies, man has relied on plants in innumerable, although often unrecognized, ways. Perhaps the most important fact is that humans need plants. People have always been surrounded by and dependent on vegetation. Man foraged for roots, berries, grains and fruits to eat. They have used herbs, roots, bark and berries for medicine and healing. Fibers have provided us with clothing. Many of our homes have been made with lumber, thatch and grasses... all plants.

Even more basically, humans and all other life forms on Earth depend on plant life for survival. Green plants are one form of life that can convert solar energy to food energy. Life requires a constant source of food energy. Earth receives energy from the sun, but solar energy cannot be used directly by human beings and animals. Light energy is converted to chemical energy and is stored in the food made by green plants. Animals eat the plants and we eat animal products as well as the plants themselves. All our food comes from this sunlight-converting activity of green plants.

## **What are the parts of a plant?**

Plants have different structures that help them to live and grow within their environment. These structures are the roots, stems leaves and flowers.

**ROOTS:** The primary function of the roots is to anchor the plant into the soil. The roots also absorb water and minerals from the ground and transport them to the plant. The roots also store food.

**STEMS:** The stems of the plant act a transport system for water, nutrients and food for the plant. Stems also support the leaves and flowers of the plant.

**LEAVES:** The leaves of the plant come in many shapes and sizes. The leaves most important function is that they contain chloroplasts which are necessary for storing energy during photosynthesis.

**FLOWERS:** The flowers are the reproductive part of the plant. It contains all of the parts necessary for the plant to produce seeds. The flower produces the seeds within its fruit.

## **Plant Facts:**

- Plants are usually rooted in place and don't walk around, but they do move
- Plants usually continue to grow throughout their lives; animals stop growing at maturity
- Plants come in all shapes and sizes

## **During your visit to Pan's Garden you will see five different types of plants:**

- Tree- plants over 15 feet tall with woody tissue
- Shrub- plants under 15 feet tall with woody tissue
- Herb- plants with only soft tissue
- Climber- plants that grow and climb upon other plants or surfaces
- Epiphyte- plants that are rooted on other plants, but DO NOT feed on them

## **What is the purpose of a garden?**

- stimulates the senses and provides a place for relaxation, education and recreation
- creates a "green space" in towns and cities
- provides habitat for wildlife
- serves as a gene bank for conservation of species
- allows us to learn more about how plants help humans

### What is a botanical garden?

A botanical garden is an area in which a wide range of plants is grown for scientific, educational and aesthetic purposes. Botanical gardens often include species habitat groupings, such as rock gardens, water gardens and meadow gardens. Collections organized by botanical families, such as roses, orchids or palms, are also common.

One of the earliest botanical gardens for the study of plants was established in ancient Athens about 340 B.C. by Aristotle and his pupil, Theophrastus. The oldest public botanical gardens in the world were founded in Pisa, Italy, in 1543; in Padua, Italy, in 1545; at Paris in 1635 and Berlin in 1679. The first experimental botanical garden in the United States was established by the American botanist William Bartram, near Philadelphia, in 1728.

Botanical gardens are extremely popular today. Old gardens are being restored and many new gardens are being established all over the world. This is leading to user-friendly gardens with an increased emphasis on public education and recreational events. Botanical gardens are also major leaders in the struggle to preserve the Earth's environment.

Florida has many botanical gardens. Two world-famous Florida botanical gardens are Fairchild Tropical Garden in Miami and Marie Selby Botanical Garden in Sarasota. Here in Palm Beach County we have Pan's Garden and Mounts Botanical Garden.

### What is Pan's Garden?

Pan's Garden is a botanical garden that promotes the environmental heritage of our state. All of the plants in the garden are native to Florida. The Garden is divided into **three** very different areas. They are the:

**WETLANDS-** a place where the land is very low, collects run-off water after rainstorms and is usually covered by standing water on a regular basis; plants that grow in the wetlands are adapted to those wet conditions and need a constant source of moisture for their survival

**HAMMOCKS-** a place where the ground is higher and drier than the wetlands; hammocks are usually forested or wooded and the plants there are adapted to growing in the shade as "understory" plants.

**UPLANDS-**a place where water drains through the high and dry sandy soil very quickly and plants there have adapted to grow in almost desert-like conditions

(Coastal Dune plants can also be found growing occasionally along the perimeter of the hammocks and uplands in the Garden)

Pan's Garden allows people to see plants in condition that closely resemble their naturally occurring environment. Threatened, protected and endangered species, which may be difficult to view elsewhere, thrive in Pan's Garden, and serve to remind students and adults alike, the importance of preservation and protection of our native plants.

The soft textures and pleasing sounds of beautiful birds, butterflies and other animals that reside in Pan's Garden's surroundings are a departure from buildings, roads sidewalks, and other "hardscape". The Garden provides a welcoming natural habitat for animals and a "green space" for residents and visitors of Palm Beach and serves as a constant, important reminder of the beauty and purpose our native plants provide.

### Why do we want to preserve Florida's native plants?

Florida's plants are under threat of many fronts:

- **Habitat loss:** Millions of acres of native habitat have been lost in Florida due to land development. Despite laws enacted to protect these fragile areas, the assault continues. Coastal dune vegetation, central sandhill and wetlands face the highest risk of destruction.
- **Invasion by exotic species:** Today Florida has over 4,000 species of plants growing in the wild – only 2,500 are native! Large-scale introduction **EXOTIC** plants from other parts of the United States and foreign countries has been taking place since the Spanish first landed in 1513. Many of the exotic plants found in Florida's parks and gardens have either managed to "escape" into the wild, or were purposely planted to fulfill a certain need. For example, Brazilian Pepper trees (also known as "Florida Holly" were imported and planted for their rapid growth and value as a pretty shade tree. Birds love to eat the bright red berries and transport and deposit them, where they grow out of control. Once they are established, they alter the landscape and ecology; making it uninhabitable for native plants and animals, which are adapted for a specific habitat. This upsets the balance of Nature drastically.
- **Poaching:** Some species have been taken from the land illegally in such numbers that they are rarely found in the wild. There are plants such as the cigar orchid and coontie which are more commonly found in gardens but are nearly extinct in the wild.
- **History:** Our native plants are Nature's architecture and every bit as beautiful and important as old buildings, artwork and literature. The history of plants tells us about our ancestors and their ways of life, such as their diets, religious beliefs, tools, medicines and games. In order to understand the future, we must learn from the past. Some ancient Native American remedies made from plants are being used to make new medicines that may cure diseases and improve people's lives.

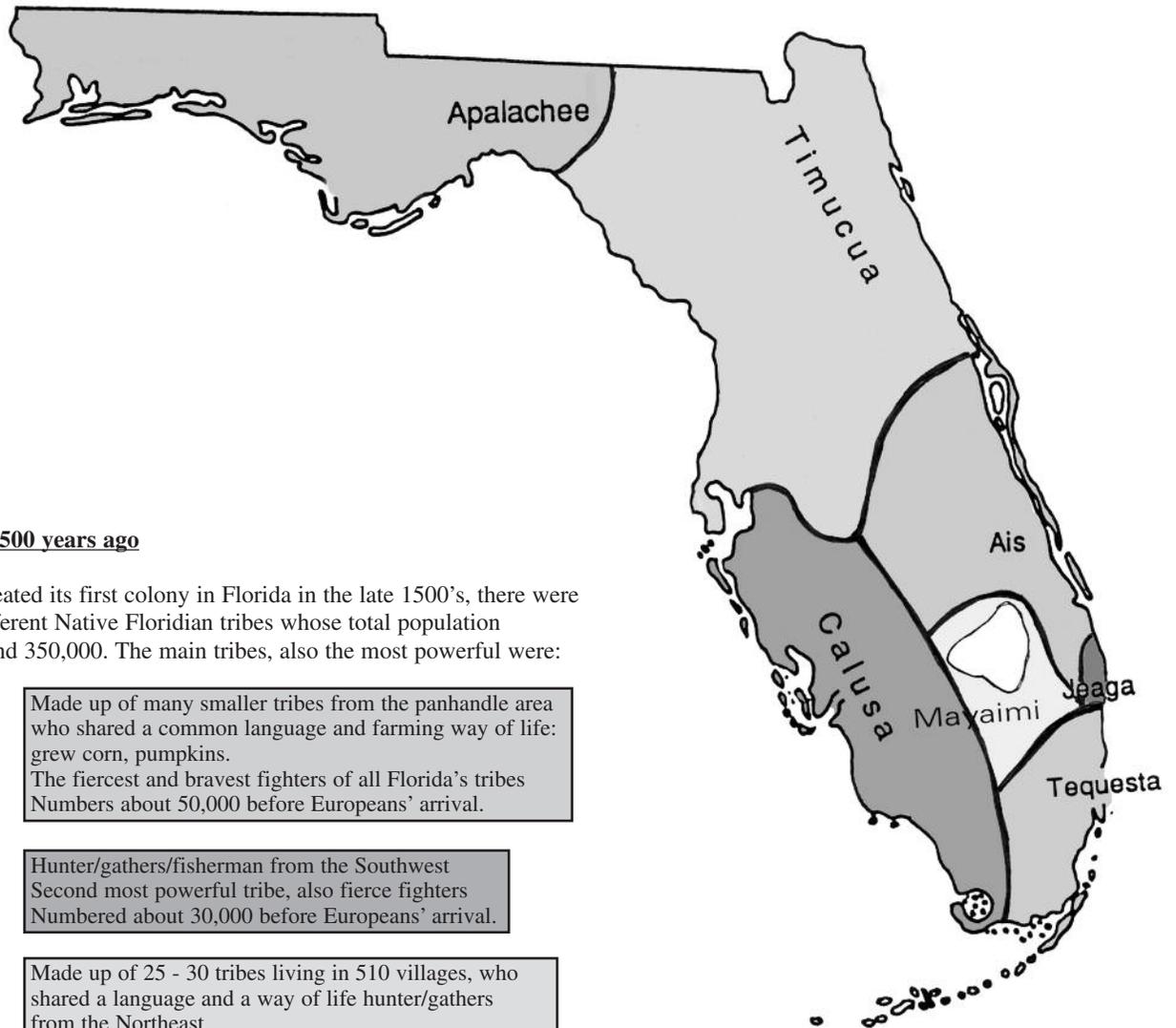
*It is everyone's responsibility to stop these threats and protect our native plants.*

# HISTORY OF FLORIDA'S FIRST PEOPLE

**GREEN PAGE**

12,000 B.C.	The first humans colonize North America and enter Florida; the environment in Florida is mostly dry scrub, prairie and savannah
9,000 B.C.	The Ice age retreats; earth's climate begins to warm up; Florida's landmass shrinks as the seas rise
5,000 B.C.	The climate stabilizes; rainfall increases, forming permanent rivers and lakes; forests and wetlands develop; permanent Indian camps are present
3,000 B.C.	Sea levels and coastlines are approximate to the present day. Large villages are established. Separate tribes start to develop
2,000 B.C.	The first pottery is made in Florida
750 A.D.	Agriculture is first practiced in Florida; corn, beans, tobacco, and gourds are cultivated
1513 A.D.	Ponce de Leon arrives near what is now Cape Canaveral and claims "La Florida" for Spain
1565 A.D.	St. Augustine, the first European settlement in North America, is established
1595-1659 A.D.	Severe disease epidemics ravage the Indian population
1670	British settle Charles Town (South Carolina)
1680-1707A.D.	British and northern Indian tribes raid and destroy Spanish Florida missions; thousands of Florida Natives are either taken as slaves or killed
1763 A.D.	Great Britain acquires Florida from Spain; only a few Florida Native tribes remain in the territory; tribes from the north and escaped African-American slaves migrate into Florida and are named Seminole
1776 A.D.	The American Revolution ends; United States is formed
1784	Florida is taken from Great Britain and returned to Spain
1813-1814	Creek War (in Alabama) thousands from the Creek tribe are forced from millions of acres of homeland by Gen. Andrew Jackson. Creek survivors flee southward and join Florida tribes.
1817-1818 A.D.	The First Seminole war (in North Florida)
1819 A.D.	Florida becomes a Territory of the United States
1827 A.D.	Seminole are forced to live on reservations in central Florida
1835-1842 A.D.	Second Seminole War about 5000 Seminoles fight off United States soldiers; U.S. spends over \$40 million on war and finally quits fighting; most of the Seminoles are rounded up and sent to reservations in the western states; a few escape into the Everglades
1845 A.D.	Florida becomes the 27th State

1853 A.D.	U.S. Government decrees it unlawful for Indians to reside in Florida
1856-1858 A.D.	The Third Seminole War occurs; at the end, the last major group of Seminoles are paid by the U.S. Government to emigrate to the west; about 300 Seminoles refused to leave and remained hiding in the Everglades. The U.S. gives up and allows them to stay.
1861-1876 A.D.	American Civil War and Reconstruction in Florida
1880's A.D.	Great numbers of settlers begin to arrive in Florida; Henry Flagler builds a railroad from St. Augustine to Palm Beach
1890's A.D.	Seminoles and whites begin trading peacefully on the borders of the Everglades
1894-95 A.D.	When a severe freeze wipes out the citrus crop in northern and central Florida, the northern citrus industry is abandoned; large areas of central Florida sand hill and scrub land are cleared for new plantations
1900 A.D.	Florida has 500,000 residents; Seminoles begin to adapt to the "white man's world" by selling crafts, patchwork clothing and wrestling alligators to earn a living
1912 A.D.	Henry Flagler extends his railroad to Miami and Key West
1924 A.D.	Federal Government declares that all Indians living in the United States are citizens of the country and each state in which they reside
1928 A.D.	Tamiami Trail, the first road across the Everglades, opens and connects the cities of Miami and Tampa
1935 A.D.	A major hurricane destroys the railroad to Key West; it is replaced by the Overseas Highway
1940's - present	Home air conditioning allows people to live comfortably in hotter climates; this promotes a massive development boom in Florida which continues unchecked
1948 A.D.	Everglades National Park established
1957 A.D.	Seminole Tribe of Florida officially formed
1960 A.D.	Florida has 5,000,000 residents
1961 A.D.	Miccosukee Tribe of Florida formed
1969 A.D.	The Endangered Species Act is approved by Congress
1974 A.D.	Big Cypress National Preserve is established
1995	Native Americans have been in Florida for over 12,000 years; Europeans have been in Florida 482 years; Florida has been part of the United States for 150 years
1997 A.D.	Florida has 13,000,000 residents; a University of Florida professor predicts that the population will reach 37,000,000 by the year 2050



### Florida 1500 500 years ago

When Spain created its first colony in Florida in the late 1500's, there were at least 100 different Native Floridian tribes whose total population numbered around 350,000. The main tribes, also the most powerful were:

- |                   |  |
|-------------------|--|
| <b>Apalachee-</b> | <p>Made up of many smaller tribes from the panhandle area who shared a common language and farming way of life: grew corn, pumpkins.<br/>The fiercest and bravest fighters of all Florida's tribes<br/>Numbers about 50,000 before Europeans' arrival.</p> |
|-------------------|--|
- |                |  |
|----------------|--|
| <b>Calusa-</b> | <p>Hunter/gathers/fisherman from the Southwest<br/>Second most powerful tribe, also fierce fighters<br/>Numbered about 30,000 before Europeans' arrival.</p> |
|----------------|--|
- |                 |   |
|-----------------|---|
| <b>Timucua-</b> | <p>Made up of 25 - 30 tribes living in 510 villages, who shared a language and a way of life hunter/gathers from the Northeast<br/>Peaceful unless attacked</p> |
|-----------------|---|
- |                  |   |
|------------------|---|
| <b>Tequesta-</b> | <p>Southeastern and Keys tribe that fished, hunted and gathered; most of their food from the sea<br/>Peaceful unless attacked</p> |
|------------------|---|
- |                 |  |
|-----------------|--|
| <b>Mayaimi-</b> | <p>Made up of small, peaceful fishing tribes that lived around Lake Mayaimi, (Lake Okeechobee) which means Big Waters; later people living in the eastern section became Ais and those in the west became Calusa</p> |
|-----------------|--|
- |               |   |
|---------------|---|
| <b>Jeaga-</b> | <p>A small tribe that lived in Martin and Palm Beach Counties, closely related to the Ais tribe<br/>Fisherman/gatherers, peaceful</p> |
|---------------|---|
- |             |  |
|-------------|--|
| <b>Ais-</b> | <p>A coastal hunter/gatherer/fishing tribe made up of many smaller tribes, including the Jeaga and part of the Mayaimi<br/>Lived from Vero Beach north to Cape Canaveral<br/>Many captured to become slaves to the Spanish</p> |
|-------------|--|

### Early Florida

It is estimated that humans entered what is now Florida about 12,000 years ago. At that time the world was experiencing an Ice Age. The climate was much cooler and seas were about 350 feet lower than today's level. Florida was much different than it is today; it had a landmass almost twice today's size- the Gulf Coast stretched 100 miles west of today's boundaries. The climate was very dry, with most of the land covered in sand dunes and scrub vegetation. The early people were nomadic hunter-gatherers, continually moving to different locations in search of food and fresh water.

About 11,000 years ago the earth's climate started to warm and sea levels rose. Florida became smaller and its climate became wetter. Major rivers and lakes began to form. The Everglades started to develop. With the availability of permanent water sources, native camps were established.

The climate stabilized approximately 3,000 years ago. A coastline similar to what is found today appeared. Native people began to live in permanent villages. As populations grew, tribes formed in different parts of the region; each one developed its own unique language and culture. These tribes began practicing agriculture. Corn, beans, tobacco and gourds were their main crops. Trade between tribes throughout the region extended as far as the Caribbean Islands. This way of life changed forever when Ponce de Leon arrived in 1513.

### The New World

In the early 1500's Spain was a growing nation that had few industries or resources and many of its citizens were poor. It was, however, considered to be Europe's wealthiest nation and very powerful. The discovery of the New World caused a great deal of excitement in Europe. Rumors of gold and silver and other riches **lured** many poor citizens to enlist as soldiers and accompany a group of Spanish **conquistadors** to explore this New World in search of wealth for their country and themselves. Once it was proven that the West Indies and Central and South America were in fact rich in natural resources such as gold, silver and emeralds, further explorations continued northward toward Florida.

The earliest **contact** recorded between the Europeans and the Native Floridians was in the early 1500's and it changed the **culture** of Florida's Native Americans forever. The Timucua was the first tribe to encounter Europeans during Ponce de Leon's first **expedition** in April of 1513. Ponce and his soldiers landed somewhere between what is now Cape Canaveral and the mouth of the St. Johns River, near a Timucuan village called Seloy.

Ponce de Leon was on a mission of exploration, not settlement. He was searching for the fabled Fountain of Youth that was rumored to be in the area where his **expedition** landed. Ponce never found the Fountain or gold or any other riches, but he claimed this newly discovered land for Spain and named it La Florida.

He and his soldiers continued searching for riches and the Fountain of Youth and entered the territory of the Ais and Tequesta tribes, who greeted them with **hostility**. Ponce moved on, rounding Cape Sable where he met the Calusa, the ever-warring tribe of Southwestern Florida. The Calusa spoke **fluent** Spanish and communicated easily with Ponce (perhaps Ponce was not the first Spaniard to make contact with the Native people of Florida). The Calusa

traded goods with the Native Cubans, who also traded with the Spanish; therefore both tribes spoke the Spanish language **fluently**. In spite of his ability to communicate, Juan Ponce de Leon was killed from a poisoned arrow by the Calusa during his second trip to Florida.

Although Timucuan at that time may not have had much contact with the Spanish after Ponce de Leon sailed away, Native Americans in other parts of Florida welcomed, battled with and fled from other numerous Spanish **expeditions**. Others Spanish **conquistadors** led their armies through La Florida in search of gold, silver and other riches and to **convert** and conquer the Native tribes.

Panfilo de Narvaez landed in 1528 in the Tampa Bay area, which was Timucua territory, and set out in search of gold and other natural resources. The Timucua tribe was neither **hostile** nor welcoming toward the Spanish explorers, and allowed them to pass through the region. They did not understand the **conquistadors' intent**, but grew very uneasy and suspicious of their presence and refused to trade with them. The soldiers could not carry large amounts of supplies, so food soon became scarce. Unable to find any gold or food, Narvaez led his army up the coast into Apalachee territory, where they traded with the tribe for enough food to keep his army alive. Narvaez discovered this region also had no gold, silver or other riches. The Apalachee tribe quickly became very **hostile** toward the Spanish intruders, so Narvaez and his soldiers continued their journey westward into what is now Texas.

In 1539 Hernando de Soto and his army landed in Tampa Bay where a temporary settlement was set up. Then he and his soldiers began their expedition into the interior of Florida in search of gold and other riches. Early on in the exploration, de Soto's army ran out of supplies so they raided Timucua villages and took by force the tribe's food and whatever else they needed. The Timucua were capable warriors, but not as warlike as the Apalachee or the Calusa and they tried to avoid any **conflict** whenever possible. Instead of fighting, often the Timucua fled their settlements at de Soto's approach because they knew their weapons were no match for men on horseback who had guns and vicious wardogs. Often Spanish soldiers rounded up and **enslaved** the Natives, forcing them to carry supplies and cut trails for the army.

Although they passed through many areas that would have been suitable for settlements, de Soto insisted they continue looking for gold. Like de Narvaez before him, de Soto marched north searching for gold and stealing food and wealth from the **chiefdoms**. Eventually de Soto came in contact with the Apalachee who were excellent warriors and fort builders. The tribe had learned of de Soto's **atrocities** against the Timucua and immediately went into battle with de Soto's troops, killing some of the Spanish soldiers and destroying their supplies. De Soto gave up on Florida because of its lack of gold and hostile Natives. Having heard of gold being mined "toward the sun's rising," the expedition left Florida to search for riches in what is known as Georgia and South Carolina. By the time Hernando de Soto died in May 1542 the Tampa Bay area's Native population had been **decimated** by disease.

Some Native tribes of Florida welcomed the Spanish, but it soon became apparent that the war-like natives would not be as easily **subdued** as those from other parts of the New World, such as those in the West Indies and Central and South America. **Missionaries** worked hard to conquer and **convert** Florida Native tribes to the Spanish way of life and recorded their experiences with the Timucua tribe in journals, including their customs and language. But for the most part the Spanish had no interest in the Natives, they were interested in finding precious metals; most of all gold. Soon it was discovered La Florida did not have the same riches as the Caribbean. All efforts to grow crops failed, and it was then realized that the Spanish were unable to establish **viable** settlements in Florida and settlement survival

would require Spain's help. Based on these conclusions, King Phillip II deemed La Florida too risky to **colonize**.

In 1561 the French showed interest in La Florida. This was viewed as a threat because Spanish treasure fleets returning home from the Caribbean could easily be **plundered** by French **pirates** who occupied La Florida's eastern shore. Queen Catherine of France was quickly reminded that La Florida was the property of Spain and it was demanded her subjects leave the area. Instead the French prepared an even larger fleet to sail for Florida.

French explorer Ribault landed in La Florida's Timucua territory near St. Johns River in 1562. Around 1564 the French tried unsuccessfully to **convert** the Timucuan people; they resisted conquest and **cultural colonization** by both the Spanish and the French. One Frenchman, LeMoyne deMorgues, made many detailed sketches of the Timucua way of life while he lived among them, which have been of enormous interest to **ethnographers**. The Timucua felt their **culture** was threatened by the French. The Spanish **supplanted** the French in 1565 and forced Ribault to move his group of settlers up the coast to Fort Caroline (South Carolina). Ribault remained in close **contact** with the Timucua and a considerable amount of our knowledge regarding this tribe was recorded by that **colony**. The Timucua later briefly sided with the Spanish and helped attack Fort Caroline and rid the French from the entire area.

In an effort to keep the French away from their territory, the Spanish built settlements and forts and brought more soldiers to defend the area, as well as explore and search further for gold and other riches. The best known settlement in Florida was St. Augustine, established in 1565 by the Spanish Admiral Pedro Menendez de Aviles.

In 1567 Admiral Menendez gradually conquered the Timucua tribes and then decided to journey south from St. Augustine to Cuba in an effort to gain power by conquering other Native tribes and **converting** them to the Spanish **culture** and religion. He and his soldiers first encountered the Ais, who lived in what are now Brevard, Indian River and St. Lucie counties. The Ais were not interested in learning different beliefs from Spanish **missionaries** and took an immediate dislike of the Spanish and their **intentions**. War broke out between them. After three years of fighting an uneasy peace between the Spanish and the Ais tribe was declared in 1570.

The Spanish continued their journey southward and were received in a more friendly manner first by the Mayaimi tribe, who lived around Lake Okeechobee and then by the Tequesta. Admiral Menendez maintained a friendly relationship with the Tequesta and built a **mission** in their territory. But this and every other effort by the Spanish to convert the Ais or the Tequesta to different **cultural** and religious beliefs failed.

By 1597 the Ais was the most powerful tribe of Florida's east coast and the Tequesta tribe was **declining**. It was about this time it was discovered that many Native villages were **harboring** escaped African slaves and allowing them to become members of their tribes. This angered the Spanish and once again conflicts arose between the Spanish and the Native Floridians, especially the Ais. Relations between the Spanish and the Natives eventually settled down, but this calm was mostly because the Spanish military abandoned their forts and settlements and moved out of Florida to explore other regions. By this time the **toll** taken by enslavement, disease and war caused **devastation** to the Native Florida population. The European intrusion had drastically changed the ways of life for Florida's Native people and the reduced Spanish contact did nothing to return them to their **former** ways of life.

In 1633 the Spanish revisited Apalachee territory and at that time the first of many Spanish **missions** was built and

named San Luis. The Apalachee at first became friendly and traded with the Spanish. Later they resisted their presence, but their rebellion was put down. Although the Apalachee were allowed to continue living as before, many were forced to build roads, forts and farm for the Spanish. Slowly some of the tribe gave up their old beliefs and practices and **converted** to the Christian religion. Those Apalachee who refused to change migrated north and left their homeland behind.

In 1704 while the Spanish were busy exploring new regions the British decided to take over Florida. They raided settlements, destroyed Spanish **missions** and killed or enslaved thousands of Native people. The raid's effects had **devastating** consequences for Native tribes who were already struggling to survive. Many Apalachee escaped to what is now known as Alabama, Mississippi and Louisiana and were able to maintain their **status** as a tribe; the Ais disappeared and may have become **assimilated** into the Calusa tribe; the few remaining Timucua may have later joined the Seminole tribe. Also among the victims of the war were the Tequesta **coontie** farmers on the banks of the New River, who were killed in a surprise attack by British Major Lauderdale. In 1770 a British **surveyor** described seeing numerous deserted villages where the Tequesta once lived.

In 1763 Spain finally **ceded** Florida to Great Britain. The few surviving Calusa, and the people from the Ais, Jaega and Tequesta tribes who were **assimilated** into the Calusa, were **exiled** to Cuba. The Native Florida tribes **officially** no longer existed.

The **demise** of the Florida Native tribes created a **void** that was soon filled by other tribes from the north who fled southward as the Europeans continued to explore and conquer Native land for settlement. In the late 1700's Native Americans from Georgia, the Carolinas and Alabama took **refuge** in Florida to start a new life as far away from the European settlers as possible. These settlers were steadily moving into what is now the southeastern part of the United States and as they did, they took over the lands of the Native American people. The **remnants** of the large tribes once known as Muskogee, Yamasee and Upper and Lower Creek were forced to come together and become one tribe in order to survive. There was so much intermixing of people due to tribal collapse that it was no longer possible to identify separate tribes.

The Spanish referred to the group living in Florida as cimarrones, which means free, wild, not tied to tribes or villages. The people called themselves isti siminoli or yat'siminoli, and after many variations of pronunciation, they became known as the Seminole, which is the term used today. After 1820 all Native Americans in Florida were Seminole.

Some African slaves escaped from American plantations, joined the Seminole and became known as "Black Seminoles". The Seminoles welcomed these ex-slaves into their tribe and protected them from slave hunters in exchange for a portion of their crops. The Black Seminoles brought to the Seminoles farming experience and also helped them raise cattle. They all enjoyed living in peace.

The peaceful times did not last long. Angry slave hunters came to Florida to find the runaway slaves and in the process burned entire Seminole villages and stole Seminole cattle. The Seminole fought back to protect the Black Seminoles, cattle and their families. These conflicts started the First Seminole War (1814-1818). The tribe was forced to leave their villages and move further south and deeper into the interior of Florida, making it more difficult to be found. But there was no winner in this war.

In 1821 when Florida became a United States territory settlers in search of rich farm land began moving south into

Seminole country. In order to rid the land of Indians and to clear the way for settlers the United States signed into law the Indian Removal Act in 1830. This law forced all Native American tribes in the Southeastern United States to give up all of their land and move to Oklahoma, which was then a territory, where they were promised good land and a safe place to live. However, the government had broken its promises many times before and the Native Americans did not trust them. The Seminole people would not leave. Instead they chose to fight for their land against the United States Army.

The Second Seminole War (1835-1842) was the bloodiest of most costly of all Indian Wars. Just as in the first war, there was no winner. The Seminole refused to surrender and the US soldiers grew weary of fighting. Eventually, most of the Seminole were forced to move to Oklahoma along with the Cherokee, Chickasaw, Choctaw and the Creek tribes and they became known as the "Five Civilized Tribes".

There were two important men who inspired their tribes to keep fighting for their freedom during the Seminole Wars. Osceola was a skilled **orator** and **negotiator** and a great Seminole warrior who fought **passionately** against the US forces. In 1837 he traveled to meet with US military leaders who had promised peace. Instead the US soldiers surrounded Osceola and arrested him. He died of pneumonia in prison.

Abiaka, a tribal medicine man was also known to the US leaders as Sam Jones and was considered more powerful than Osceola. His religious ceremonies prepared them for war and he stirred up the Seminole warriors with his speeches. Abiaka urged his people: "Never surrender!"

About five hundred Seminole refused to leave Florida, which led to more conflicts with settlers and resulted in causing the Third Seminole War (1855-1858). Again there was no winner. The Seminole would not surrender. They simply moved further south, deep into the swampland of the Florida Everglades. The United States government finally called a **truce** and allowed the Seminole tribe to remain on large pieces of land called **reservations**.

### A Lesson for the Future

Desperate attempts to survive forced Florida's original Native Tribes to adapt and accept a new ways of life. Some chose to **convert** their religious and cultural beliefs and lived and worked among the Europeans, and were often treated poorly. To avoid the Europeans and in an effort to preserve and protect their culture and way of life, many Florida Native people migrated and often traveled long distances to locations where the climate and plant species were very different from their homelands. In order to survive it was vital tribes quickly adjust and adapt to their new environments; learning the names and uses for plants available during their migration and those surrounding their new home. Some Native people were forced to migrate and adapt two or three times in their lifetime; only the hardest survived. Small groups of people from once large tribes were forced to **assimilate** into existing tribes or form new tribes to insure survival. In the end, Florida's Native tribes became extinct- lost to slavery, starvation, diseases, assimilation and war.

The **extermination** of the native Floridians is one of the great tragedies of history. Thousands of Native people and their unique culture and wisdom were lost forever. The Seminoles who are with us today retain a large share of their culture, some of which is very similar to the original Florida Native tribes. Scholars and scientists are helping them to record this knowledge and preserve it for future generations.

The loss of native habitat in Florida parallels the history of the extinction of its people. Huge tracts of native plants have been destroyed to accommodate an expanding human population. As a result, we are now on the brink of losing countless unique species of plants and wildlife due to the destruction of natural areas by the construction new homes, roads, shopping malls, etc.; the of invasion of exotic species and pollution. It is our responsibility to protect and preserve our native plants and the environment for our future generations to experience and enjoy.

### Who Were Florida's First People?

There were many different tribes of people and cultures in Florida for thousands of years before the Europeans first "discovered" the land in 1513. Before Europeans began settling the Southeast, there were at least 350,000 Native people in Florida who lived in at least 100 separate groups. Many of these groups were not individual tribes but related to larger, more powerful tribes by their language and **culture**. For instance, the Timucua tribe that inhabited a very large area in northern and central Florida was made up of 35-40 smaller groups known as **chiefdoms** and lived in 500 or so separate villages. But all of these groups spoke the same language and had similar ways of life as the Timucua; therefore they were all identified as part of, or related to the Timucua Tribe.

The most powerful and **influential** of Florida's Native tribes were the Apalachee, Timucua, Ais, Jaega, Mayaimi, Tequesta and Calusa. These Native people and their **ancestors** had lived on, and cared for, the land for more than twelve thousand years. They were probably the first natives of North America ever to make **contact** with the European explorers. In a period of about 250 years, between 1513 (when Spain laid claim to La Florida) and 1763 (the year Spain **ceded** Florida to Great Britain) most of Florida's original Native tribes tragically became **extinct**.

### What Happened to the Native Floridians?

About 80% of Florida's Native population died from diseases **introduced** by the European explorers. Chickenpox, smallpox, measles, plague, scarlet fever, influenza, yellow fever and other diseases swept through the villages and killed the Natives by the thousands. Those who survived these **epidemics** were either captured by invading armies or slave traders, killed by the European invaders or eventually were **assimilated** into other tribes. The last recorded survivor of the Timucuan tribe was born in 1709 at a Spanish Mission in St. Augustine and died in Cuba in 1767.

Not much is known about the ways Florida's Native tribes lived because most tribal history was passed **verbally** from one **generation** down to the next. The Natives did not have an alphabet or a written language and therefore did not have books, journals or keep records. Some major events were recorded by a form of writing that used pictures or symbols to tell a story. Plant dyes were used like ink or paint to draw symbols that described important events; a good hunt, war, a hurricane, etc.

The European explorers and missionaries did write down their observations of the land and its people, but information was written according to their viewpoint, experiences and beliefs. Many cultural differences created huge

misunderstandings between Florida's Native people and the Europeans. But the Europeans had no interest in understanding the Native people and their ways; they only wanted to take possession of the Natives' land and natural resources.

Sometimes information about Florida's Native Americans is **garnered** by accident when **remnants** of pottery, tools and weapons are found during the **excavation** for a new building, shopping mall, road or school. **Archaeologists** are then called in to carefully search, dig and piece together **artifacts** that give historians and scientists more clues about the life and culture of Florida's original tribes.

**See the accompanying map on page which illustrates the areas where many Florida Native American tribes lived.**

### Appearance

Most of Florida's Native people were tall, muscular and athletically built with hawk-like noses and skin that ranged from olive to reddish in color. Oils such as bear fat mixed with herbs were bug repellent, tanning lotions and make-up. Men and women in some tribes kept their fingernails and toenails long and filed into sharp points that were weapons. Women in most tribes wore their dark hair long and loose and the men twisted their long hair into a bun atop their heads and entwined moss or grass in their hair.

The chief, his family and others of high rank were tattooed in colors of red, blue and black. Chiefs wore painted deer hides, shell belts, painted bird plumes and round pendants made of copper. A warrior's clothing was a loin cloth made of soft deerskin, sometimes painted or made of woven palm fronds. Women wore short skirts or aprons woven of Spanish moss, which was smoked over an open fire to drive the redbugs out. In cooler weather both men and women in the northern tribes wore **matchcoats** made of deer skin or turkey feathers. Jewelry such as earrings or **earspools** were made from fish bladders or shells; hair pins were of carved bone and feathers; necklaces were beads made of small and large shells; and bracelets were made using fish teeth, small copper disks and freshwater pearls.

### Leadership

Florida's native people lived in **chiefdoms**, a group of small villages ruled by a chief who lived in the **principal** town. When a village grew too large for the natural environment in the surrounding area to support the population, a new village would be made a distance away and in this way **chiefdomships** grew. Sometimes, such as in war, **alliances** were formed between two or more chiefdoms. **Alliances** were also formed through marriage between **clans** and villages.

Chief was a title **inherited** and passed from uncle to sister's son (nephew). Chiefs were greatly respected and ruled with the help of a council- other **clan** members who served as aides and **advisors** such as a Paracusi (War Chief). "Principal Men" and "Principal Women", village **elders** well respected in the tribe, served as **advisors** to the chief and the council. Women could be chiefs as well and had female **advisors** that sat in council with them.

### Homes and Villages

Native Floridian houses varied in size and shape from one region to the next. In most villages the houses were built from wooden poles made from trees such as the cypress, with roofs covered in palm fronds or cypress bark. In very wet areas homes and other structures were built up on mounds or poles. Council houses where important tribal meetings took place were often much larger- more than 1000 ft. across with walls made of palm leaves, reeds, cane or sticks. Small door openings were short and wide. Low wooden sitting benches or sleeping mats made from palm leaves or reeds sat around the outside walls of the huts. Family houses in South Florida rarely had walls because of the warmer climate.

Villages were made up of about 250 people who built many different houses for many different needs. There were family houses, cooking houses, houses for food storage, houses for work areas (making pottery, baskets, weapons, etc), and in the middle of the village was the council house where important meetings and ceremonies took place. In north Florida where most Native tribes lived in one place and rarely moved, houses were built to be permanent structures and more **elaborate**. But in south Florida where the natives were hunter/gatherers and moved constantly, houses were less detailed because they were frequently abandoned.

### Food

The Native Florida tribes in all regions hunted, fished and gathered plants. Tribes that farmed the land were located in northern most part of Florida where the soils were very fertile. Fields were cleared by cutting trees and using fire to burn away the brush. Both men and women worked the soil using tools made of shells or bones. The women planted seeds and the crops were tended by children or elders. Florida's sub tropical climate allowed two growing seasons of crops.

Women and children spent much of their time gathering plants to make into food, medicine, weaving materials, tools and dyes. Some tribes grew **maize**, beans, squash, pumpkins, and sunflowers. But many foods were gathered from the wild such as acorns, hickory nuts, plums, cabbage palm, wild cherries, berries, morning glory, saw palmetto, yaupon, buttonbush, sea grapes, coco plum, coontie, prickly pear and sea oats.

Natives fished the rivers, lakes and seas with their nets and **weirs** for porpoise, manatee, tarpon, mullet, rays, sawfish, whales, sharks, redfish, catfish, perch, trout, bass, bluegill and sunfish. Shellfish such as oysters, clams, snails, coquina, conch, crabs were collected whenever possible and huge **middens** can still be seen along the coasts and waterways of Florida today.

Native Floridian men hunted large animals with bows and arrows, while women and children stalked smaller game and birds. Some of the animals hunted include deer, raccoon, gray fox, squirrel, red wolf, otter, seal, rabbit, bobcat, beaver, muskrat, turkey, bear, panther, opossum, gophers and skunks. Men smoked the meat over open fires and cooked, cleaned and prepared animal hides to use for clothing.

Even reptiles including all kinds of snakes, toads, turtles, frogs and alligators were hunted and eaten as food. Eggs gathered from birds such as pelican, turkey vulture, gull, eagle, ibis, heron, duck, geese, turkey and egret were used as food. Their beautiful feathers were used as decorations in hair and clothing.

### Tools and Weapons

Florida's Natives used dugout canoes for transportation. The narrow canoes were about 15-20 feet in length, made from pine or cypress trees and usually had a platform at each end on which the fishermen stood to **pole** the boat or to fish. Paddles were usually about 6 feet long and cut from lightweight wood such as pond apple. Sometimes canoes were tied together to carry heavy loads or to make the boat more stable in deeper, rougher waters.

The Natives made fishing equipment from plants, bones and shells. Hunting tools were also made from same materials. Spears, arrows, throwing sticks and clubs were cut from branches of strong, heavy wood which often had sharp points made from rocks, bones or shells. Bows, traps and snares were made from more flexible, lightweight smaller branches. Drills, scrapers, knives, needles and other important tools were made from wood, antlers, shells, bones and rocks.

### Florida Native Art

Florida's first people created beautiful paintings on clay walls inside council houses or on tanned hides and they were reported to be as fine as any created in Europe in the early 16<sup>th</sup> Century. These were scenes of animals or events of great importance and honor painted so skillfully they appeared real. Unfortunately these works of art were never **preserved** and became ruined over time. The Calusa of South Florida carved and painted beautiful **elaborate** masks which were used in secret religious ceremonies by the chief and a few of the tribe's holy people.

Music and dance were very important to the Native people's every day life and almost always were included in ceremonies and celebrations. Gourds were used as rattles, a large rock beaten with a club became a drum, and flutes were made from reed, cane or bark. The women wore shell belts, formed a large circle and danced with a side stepping motion around a central fire during a ceremony whose meaning, sounds and movements were lost along with the people.

### Beliefs

Florida Natives believed there were three worlds: the Upper World (a perfect world located above the sky), the Middle World (the balanced or stable and equal world located between the Upper World and the Under World) and the Under World (a disorderly, confused world located beneath the World and the Oceans). The Natives also divided animals into three main categories. The Upper World was represented by birds of flight, such as the eagle, the Middle World with four-legged animals such as the deer and the Under World with snakes, insects and rats.

Some plants and animals were believed to have special powers. Good examples are the evergreens (cedar, cypress, holly, pine and spruce trees) which were used in ceremonies, as medicines and as building materials for houses, dugout canoes and masks.

The most important of all the birds in the Southeastern Natives' Ceremonial beliefs was the Peregrine Falcon, the fastest of all birds. When hunting it flies very high and dives straight down towards its prey. It then kills with a powerful blow like a warrior would deliver with his powerful war club. Native Floridian warriors and hunters carried red ochre (paint) in a buckskin pouch and used it to paint the forked eye design of the Peregrine falcon around their eyes. They believed that this would give them the keen eyesight and hunting abilities of this falcon.

# FLORIDA'S NATIVE TRIBES

**GREEN PAGE**

## Ais

### Who were they?

The meaning of the word Ais (pronounced "Ice") is unknown; it may have been the name of the ruling chiefdomship in that area. Jonathan Dickinson in 1699 referred to them as the Jece, which was actually the name of an Ais village. They were also called Indians de la Costa (Indians of the Coast) after 1711.

### Where did they live?

The Ais lived along the eastern coast of Florida from Cape Canaveral in the north to as far south as Fort Pierce (Indian River, Brevard and northern St. Lucie counties). Their lands stretched westward to the St. Johns River and surrounded the Indian River. They lived in villages and towns along the shores of the great lagoon called Rio de Ais by the Spanish, now called the Indian River.

### How did they live?

The Ais tribe enjoyed a strong, highly respected and developed **culture**. Their population was large because there was plenty of food in their surrounding environment. The Ais were primarily **foragers**; hunting, fishing and gathering seagrape, cocoplum and palmetto berries for food. The area they inhabited was up the St. Johns Rivers about 15 miles from the ocean's coast, where freshwater marshes and swamps and the saltwater coastal lagoons come together. A large portion of their diet was made up of fish, reptiles and shellfish such as oysters and clams. The Ais was a "**Mound Builder**" tribe- they left behind large **middens** of discarded shells from their food sources. Young men speared fish with great skill, then boiled them whole and served them on small palmetto leaves. Turkeys, ducks, deer, raccoons, opossums, rabbits and other small game made up a much smaller part of their diet.

Early explorers and mission priests failed to record much about the Ais, so little is known of their origins or ways of life. Their language was similar to the Tequesta and Calusa, which allowed communication among those tribes. Spanish Explorer and Admiral Pedro Menendez de Aviles established a fort among the Ais in the Indian River area in 1565, and shortly after, war broke out. An uneasy peace was reached by 1570 but all efforts to **convert** the Ais to any other **culture** or religion were unsuccessful.

The Ais had considerable contact with Europeans and traded some at St. Augustine. The Native tribe considered the Spanish comerradoes (friends) and non-Spanish Europeans as enemies. Stormy weather caused many ship wrecks along the east coast of Florida and the Ais gathered many **artifacts** from the sunken vessels. The Ais often traded with the Calusa and shared gold and silver and other riches recovered from wrecked Spanish **galleons**.

In 1597 the then Spanish governor of Florida Governor Mendez de Canco, visited the Ais on his journey from the Florida Keys along the east coast to St. Augustine. He noted that the Ais tribe was the largest of any other he had visited. In 1605 the Ais sent warriors to assist the Spanish Governor in his effort to remove the French from Florida. After 1675, when the Timucuan **rebellions devastated** the northern **missions**, the Spanish made unsuccessful attempts to build **missions** in Ais territory.

The Ais sometimes took in shipwrecked sailors and taught them their language. In 1699 Jonathan Dickinson and his party became shipwrecked by a hurricane as they traveled along Florida's coast. Dickinson and his group were captured and stayed at the Ais village of Jece, a few miles north of Fort Pierce Inlet on the St. John's River. After a few days they were let go and the group traveled north to St. Augustine. Dickinson kept a journal of his experiences during his journey and provided valuable details on the life of the Ais.

### What happened to them?

The Ais took African survivors of shipwrecks and run away African slaves into their community (other tribes did as well) and it soon became common to find escaped slaves living among the Natives. This angered the Spanish. In the early 1700's settlers in Carolina began their raids on Ais villages to capture escaped slaves. It was about this time that the tribe was no longer referred to as Ais, but as the Costa. In 1711 a **census** taken by the Spanish reported 137 Costas survived in the area. By 1743 when the Spanish established a mission among them, the tribe's numbers were even less due to continued slave raids and the spread of disease. In 1759, the last of the Costa were living in St. Augustine, in one of two small Native villages attached to the mission. The Ais were totally gone from the area by 1760. Perhaps these few Costa "Indians" left with the Spanish and went to Cuba when they turned Florida over to the English in 1763.

## Apalachee

### Who were they?

One of the most powerful of the Florida Native tribes was the Apalachee (ap-ah-LATCH-ee). It is estimated that there were at least 50,000 to 60,000 people that made up the tribe before the European **contact**. Other tribes respected the Apalachee and regarded them as wealthy, powerful and the fiercest warriors in Florida. The tribe had a strong **chiefdom** and much of their work, social, **ritual** and political lives were organized by the leaders.

### Where did they live?

Apalachee territory included much of what is now the "panhandle" of Florida. The Appalachian Mountains begin in the area where the tribe lived and were named after them.

### How did they live?

Apalachee villages were scattered far apart from each other, usually close to a lake or river because water was needed to farm their plots of land, which were about ½ acre in size. The Apalachee were outstanding farmers and grew the most **abundant** types of crops than any other tribe because they were located where the soils were the most fertile. Because they were able to easily raise so much food, it was possible for the Apalachee tribe to have more people in larger towns, thereby making them one of the largest of Florida's native tribes. The Apalachee grew **maize**, beans, sunflowers, wild garlic, wild onion, melons, citrus and squash.

The Apalachee tribe traded with other tribes from as far away as the Great Lakes and what is now Oklahoma. They swapped items commonly found in Florida such as shark teeth, shells, sea turtle meat; **cassina** leaves for articles not found in their surrounding environment such as copper, mica, galena and greenstone. From these metals, minerals

and ores the Apalachee made strong weapons and a few tools, but most tools were made from stone, shells or bone. The ability to trade with others from far away and the use of **precious metals** are reasons why the Apalachee was viewed by other Florida tribes as being so powerful.

Apalachee men prepared the fields for farming and hunted deer, bear, rabbits and other small game. They wore deerskin loin cloths and smoked tobacco. When they went to battle the warriors placed feathers in their hair and painted their bodies with red dyes made from berries to appear more fearsome. To become tribal warriors Apalachee men had to prove their strength and ability by killing and scalping their enemy and then showing off the scalps. The entire tribe then celebrated with a special dance as the men dressed up and wore headdresses made of bird beaks and animal fur.

The Apalachee women wore skirts made from Spanish Moss and tended the crops. They picked strawberries; gathered roots, greens, acorns and nuts; **preserved** food by smoking and drying it over open fire and did the day-to-day cooking. The women also made pottery, wove cloth from plant fibers and cured buckskin.

The tribe had a favorite sport that was played in the spring and summer: a ballgame. Each individual Apalachee village had their own team made up of about 50 players. The two teams kicked and hit a small mud ball wrapped up in buckskin. The object of the game was to score a goal by either hitting the goalpost with the ball, which scored one point; or by landing the ball into the eagle's nest at the top of the goalpost, which was worth two points. The first team that scored eleven points was the winner. The game was usually dedicated to the gods of rain and thunder to insure rain for their crops.

Villages had a great deal of pride in their teams. The best players were viewed as special members of the tribe and were given houses, had their fields planted for them and any **misdeeds** were overlooked just to keep them on the team. These games were such a source of pride that before each game could be played certain rituals and ceremonies took place before the goalposts could be put up. Serious injuries and even deaths occurred because the game was very violent and had few rules.

### **What happened to them?**

Spanish explorers in a search for gold entered Apalachee territory in 1528 and treated the tribes cruelly; in turn the Apalachee feared and hated the Spanish. Warriors brutally attacked the groups of explorers but were no match for the vicious war dogs, fast horses and guns; soon the Spanish **seized** the entire Apalachee territory and built **missions**. The tribe's warriors continued to fight and tried desperately and unsuccessfully to regain their land. Some of the Apalachee became part of the mission system and left their former way of life to live among, and adapt to, the Spanish ways of life. Those who were captured but refused to live in that system were either killed or forced to become slaves. As more **missions** were built, more European people settled the area and brought **contagious** diseases to the Native Floridians which killed them by the thousands. A small group of Apalachee fled and migrated westward to continue life in what are now known as Mississippi, Alabama and Louisiana. The Apalachee tribe is one of the few of the original Florida Native Tribes that did not become **extinct**. Today the only **documented descendants** of any original Florida native tribes are a group of about 250 to 300 Apalachee who still live around the Gulf Coastal area.

### Calusa

#### Who were they?

The Calusa (“ka-LOO-sah”) people were probably **descendants** from the warlike Carib Arawak Indians who migrated originally from South America to the Caribbean Islands and later into Florida. Even though they had a smaller population than other Florida Native tribes, the Calusa was a powerful and war-like tribe that controlled or **influenced** other South Florida tribes.

#### Where did they live?

The Calusa tribe lived on the Southwest coast of Florida (Charlotte and Lee Counties) along the shorelines of the Caloosahatchee River, Charlotte Harbor, Pine Island Sound and Estero Bay in homes built up on stilts with roofs made of palmetto fronds.

#### How did they live?

The Calusa were **foragers**; they hunted, fished and gathered their food. They were a tribe of “**Mound Builders**”, like most coastal tribes, and left behind large **middens** along the shores of Southwest Florida. Dugout canoes made from cypress logs were the main form of travel; some canoes were large enough to venture into the ocean and go as far as Cuba. From these canoes the Calusa attacked Spanish ships and gathered treasure from sunken ships. In order to safely travel, hunt and trade with other tribes the Calusa dug miles of canals that served as “water highways”.

The Calusa was a very powerful and war-like tribe and at various times fought with and controlled other Southwest Florida tribes such as the Tequesta, Matecumbe, Jaega and Mayaimi. Their head chief was named Calos (or Carlos). Spanish explorer Juan Ponce de Leon first met the Calusa at Cape Sable, at the southern most tip of Florida's mainland. The Calusa spoke **fluent** Spanish and communicated easily with Ponce. The Calusa frequently traded goods with many different people and as a result they spoke over 24 different languages. Several attempts were made to **convert** the Calusa to the Spanish culture and religion, but all failed. And in spite of his ability to communicate with the tribe, the Calusa killed Juan Ponce de Leon with a poisoned arrow during his second trip to Florida.

#### What happened to them?

The Calusa tribe was wiped out by the “Indian” raids from the north and European diseases. The few survivors either **assimilated** into other tribes or migrated south to Cuba.

### **Jaega**

#### **Who were they?**

Little is known of the origins of the Jaega (pronounced HAY-ga; also spelled Xega, Geigas), or of their language, but they may have been a junior branch of the Ais tribe that lived along the coast to the north. The Ais and Jaega languages are similar, but there are also some similarities to the language of the Calusa.

#### **Where did they live?**

The Jaega tribe lived along the coast of present-day Martin and Palm Beach Counties at the time of initial European contact and up until sometime in the 18<sup>th</sup> century. Some information about the Jaega town of Jobe (pronounced HO-bee) near present-day Jupiter Inlet comes to us from the Journal of Jonathan Dickinson, who was part of a shipwrecked group held by the Jaega tribe of Jobe for several days in 1696. According to Dickinson the town of Jobe was led by the Ais chief who lived in a town called Jece (pronounced HEE-cee) near present-day Vero Beach.

#### **How did they live?**

The Jaega was a small, peaceful tribe of fishermen and one of the “**Mound Builder**” tribes. Shellfish such as clams oysters and conchs were plentiful in the area and the tribe ate them routinely. The Jupiter Lighthouse is built on an ancient shell **midden** created by the Jaega tribe. They also caught fish, lobster, turtle and snails and whale, the “sea wolf” (the now extinct Caribbean monk seal), manatees, sharks, sailfish, porpoises and stingrays. Sea turtles and their eggs were eaten during turtle nesting season.

#### **What happened to them?**

Due to the tribe's very small population, the Jaega was the first Florida Native tribe to become **extinct**. Any survivors of war or disease most likely **assimilated** into the nearby larger Ais tribe, whose culture was most closely related to their own.

### **Mayaimi**

#### **Who were they?**

The Mayaimi tribe took their name from the lake they called Mayaimi, which in their language (and also in the language of the Calusa and Tequesta) meant “big water”. The lake's current name of Okeechobee also means “big water” in the Miccosukee (Seminole) language.

#### **Where did they live?**

The Mayaimi tribe lived around Lake Okeechobee in the late 1600's or early 1700's. They lived in many small towns of just thirty or forty people each and there were also other smaller “scatterings” where just a few people lived.

### How did they live?

The Mayaimi left ceremonial and village mounds around the lake like those used by other tribes who were also “**Mound Builders**”. Like the Calusa, they dug many canals to use as pathways for travel in their canoes. The dugout canoes were a platform-type with shovel shaped ends that looked much like those used in Central America and the West Indies, rather than the pointed-ended canoes used by other people in the Southeastern United States.

They used fishing **weirs** and ate bass, eels, alligators, turtles and snakes caught from Lake Okeechobee, which provided most of their food. The tribe also made bread from processed **coontie** flour. During the high water season in the summer the tribe lived on top of their mounds and ate only fish.

### What happened to them?

In the early 1700's British raiders from the Carolinas burned villages and killed or captured members of all Florida tribes down to the southern end of the Florida peninsula. In 1743, Spanish **missionaries** sent to Biscayne Bay reported that a **remnant** of the Mayaimis, perhaps less than 100 people still lived in the area of Lake Okeechobee. Those survivors probably **assimilated** into the Calusa tribe and later were **exiled** to Cuba when Spain turned Florida over to the British in 1763.

## Tequesta

### Who were they?

It is estimated that at the time of European **contact** there were 8,000-10,000 Tequesta (pronounced “Teh-KES-ta”-also known as Tekesta, Tegesta, Chequesta, Vizcaynos) people. The tribe, at times, was **dominated** by the Calusa from Southwest Florida. The Tequesta Calusa and the Mayaimi languages were closely related.

### Where did they live?

The Tequesta tribe lived along the Atlantic coast of Florida in what are now known as Palm Beach, Broward and Miami-Dade Counties. They also lived in the Florida Keys at times, where **occupation** of the Keys may have swung back and forth between the Tequesta and Calusa tribes. It was recorded the Tequesta had a village at Cape Sable at the southern end of the Florida peninsula around the 16<sup>th</sup> century, but **archaeologists** found Calusa **artifacts** outnumbered those of the Tequesta. The central town, also called Tequesta, was located at the mouth of the Miami River. The Tequesta built their towns and camps next to inlets from the Atlantic Ocean and inland rivers, streams and on barrier islands and Keys.

### How did they live?

The Tequesta used ocean-going canoes, nets, spears, **atlatls**, and bows and arrows when they fished and hunted. They also gathered the fruit and roots of local plants. The Tequesta were not known as farmers; but they grew **coontie** along the banks of the New River.

Hernando de Escalante Fontandea, who lived among South Florida tribes during the 16<sup>th</sup> Century, described the Tequesta diet as fish, lobster, turtle, snails, whale and the “sea wolf” which is the now extinct Caribbean monk seal. They also caught manatees, sharks, sailfish, porpoises and stingrays. Although shellfish was plentiful, clams oysters and conchs were only a minor part of the Tequesta diet (their shells are less commonly found at Tequesta archaeological sites than at Calusa or Jaega sites). The Tequesta ate a lot of meat; deer bones are frequently found in archaeological sites. Sea turtles and their eggs were eaten during turtle nesting season.

The Tequesta gathered many plant foods, including saw palmetto berries, coco plums, sea grapes, prickly pear fruits, gopher apples, pigeon plums and palm nuts. The roots of certain plants such as coontie could only be eaten after it was ground into flour and processed to remove toxins; it was then made into a form of bread. The Tequesta men drank **cassina**, also known as “the Black Drink” which was used by many Florida Native tribes during ceremonies and celebrations.

Briton Hammond, the sole survivor of a British ship attacked by Tequesta in 1748 in Key Biscayne reported the Tequesta lived in huts with wooden posts made of cypress, raised floors and roofs thatched with palmetto leaves (similar in build to Seminole **chickees**). These houses may have had temporary walls of palmetto leaf mats to break the wind or block the sun.

Tequesta clothing was minimal because of the warm climate. The men wore a sort of loincloth made from woven palmetto leaves. Tequesta women wore shawls made of woven palm leaves and skirts of Spanish Moss or plant fibers of the Spanish dagger (Yucca), draped and hanging from a belt similar to the grass skirts of Hawaii.

In 1513 Juan Ponce de Leon stopped at a bay that he called Chequesta (now Biscayne Bay) during his exploration of Florida's coast. In 1565 one of the ships in Pedro Menendez de Aviles' fleet took refuge from a storm in Biscayne Bay and was well received by the Tequesta in the main tribal village known as Tequesta. Menendez left for Spain, taking the chief's brother with him where he was educated and **converted** to Christianity.

In March of 1567 Menendez returned to the Tequesta and established a **mission** on the south bank of the Miami River below the native village. Menendez left thirty soldiers and a priest to convert the Tequesta to Christianity. The Tequesta resisted that and a second attempt to **establish** a **mission** on Biscayne Bay and convert them to the European **culture** and religion and the **mission** was abandoned for good.

### **What happened to them?**

Starting in 1704 the Spanish government decided to resettle Florida Indians in Cuba; most of them soon died. In 1710 there was another attempt to relocate Florida Indians to Cuba where 200 out of 280 Native people soon died. The survivors were returned to the Keys. When Spain surrendered Florida to Britain in 1763, the remaining Tequesta along with other Indians that had taken **refuge** in the Florida Keys were **evacuated** to Cuba. In the 1770's there were abandoned villages in the area, but no inhabitants.

### **An Important Recent Discovery**

The Miami Circle is located on the site of a known Tequesta main village (the Native town of Tequesta) near the mouth of the Miami River. It is estimated to be about 2000 years old and consists of 24 large holes and many smaller

holes cut into bedrock that forms a circle approximately 38 feet in diameter. The Circle was discovered during the clearing of a site for construction of a high-rise building. **Archaeologists** uncovered ancient ceramics, bones and tools and it is thought to have been a council or ceremonial house.

## **Timucua**

### **Who were they?**

The Timucua (pronounced tee-Moo-qua) people are **descendants** of the original Taino Arawak-speaking people who migrated up from the Amazonian region of South America, into the Caribbean and then into central Florida (the Timucua called Florida Bimini). Over time through trade and **cultural** exchange the Arawak, Caribbean and North American languages combined and resulted in the Timucuan language. Early explorers often used Timucuan language to communicate with other tribes. Timucuas were one of the more peaceful tribes, but would fight back when necessary.

The Timucua tribe inhabited a very large area in northern and central Florida made up of 35-40 smaller groups known as **chiefdoms** and lived in 500 or so separate villages. But all of these groups spoke the same language and had similar ways of life as the Timucua; therefore they were all identified as part of, or related to the Timucua Tribe.

Some of the chiefdoms that were related to the Timucuan tribe were- Acuera, Chiucan, Icafui (in Georgia; 7 or 8 villages), Mocogo (around Hillsboro Bay), Ocale (Marion and Levy Counties), Pohoy (south shore of Tampa Bay), Potano (Alachua County), Saturiwa (at the mouth of the St. John's River), Surruque (around Cape Canaveral), Tacatacuru ( 8 villages on Cumberland Island). Tawasa (extreme north panhandle, Alabama), Tocobago (Tampa Bay, Safety Harbor), Utina- another name for Timucua (from Suwannee River eastward to Georgia border and coastal Florida)

### **Where did they live?**

The Timucua settled in Central and Northeastern Florida; however the Caribbean **influence** was preserved within their **culture**. It is believed the Timucua were the first Native Americans to see the Spanish Explorers when they landed in Florida.

### **How did they live?**

A Timucuan settlement consisted of a small number of round timber homes with thatched roofs arranged in a semi-circle around a central plaza equipped with a large post for the traditional Timucuan games. In larger settlements there would be an artificial mound for a temple and another for the chief's house. Usually Timucuan settlements were quite small.

The **clans** of the Timucua were White Deer, Panther, Bear, Fish, Earth, Buzzard and Quail; chiefs were chosen from the White Deer Clan and the title was **inherited**, passed from uncle to sister's son (nephew).

There were two kinds of houses built by the Timucua; one was a long house built using poles for the framework, bark for the walls and branches from saw palmetto or cabbage palm trees for the roof. The other was round and covered with palm fronds. The Timucua tribe had more permanent villages than any other tribe in Florida. Each family had

their own home, but all of the cooking was done in the village and meals were eaten in a main place. Their clothing was made of woven cloth and deerskin.

Timucua held ceremonies led by a **shaman** for planting, harvesting and honoring leaders who died. The Timucuan community used priests and **shamans**, who had special powers that served the needs of the people. The Timucua played a ceremonial game in which beautifully made disks made of stone about 45 centimeters in diameter were used. As the disks were rolled they took an irregular path and each player threw a long pole toward the place they thought the stone would eventually stop. The object was to throw just before the stone fell over.

Timucuan women had many **roles** beyond what was considered **traditional** for native Americans-women fought in war and sat on governing councils. Every morning the council met to discuss important matters of the **chiefdom**. Important council meetings began with a Black Drink ceremony that helped purify the council members and help them focus their thoughts and give them wisdom. The pipe smoking was also part of the **ritual** of the meetings.

The Timucua were farmers and hunter-gatherers. Unfortunately during the time of the explorers, much of this farmed food was stolen from the villages to feed the explorers. Tribe members cleared the land by burning off the brush, prepared the soil with hoes and the women planted the seeds. Two crops could be planted every year and fields were rotated. Guards, usually children or elders stood by to protect the crops from hungry birds and other animals. **Coontie** root was ground up and made into flour that was used for making a type of bread.

Timucuas were very skilled hunters and fishermen. They hunted alligators, sea cows (manatees) and occasionally whales which were cooked on a wooden rack over an open fire called a barbacoa (which gave us the word barbeque). Unlike the Calusa, the Timucuas limited their amount of fishing and hunting. Later on, however, in order to survive they traded with Britain and a good part of Florida's deer population was destroyed for the deerskin to exchange for tools, cloth and ammunition.

### What happened to them?

The Timucuas first came into contact with Europeans during Ponce de Leon's first expedition in 1513 when the State received its name of La Florida. Narvaez in 1528 and De Soto in 1539 passed through the country of the Timucua's western chiefdoms. The French settlers of Fort Caroline and French explorer Ribault were in close contact with the Timucua and visited villages on and near St. Johns River in 1562-1565. A considerable part of our knowledge regarding these Indians is contained in the records of that colony. The Spaniards **supplanted** the French in 1565 and gradually conquered the Timucua tribes and **missionized** them. Religious missionaries had great knowledge of the Timucua language, but there are only a few Timucuan words recorded today.

**Missions flourished** in the early 1600's. But the Timucuan tribal population began to **diminish** around 1649 from a **smallpox epidemic** which raged in the **missions** and war. A large **rebellion** in 1656 caused many Timucuas to either be killed or go into **exile**.

Toward the end of the seventeenth century, however, all the Florida Indians began to suffer from slave raids and the invasion of the British. Around 1704 the Apalachee tribe broke up and **migrated** north. Most of the remaining Timucua lived close to **missions** near St. Augustine, which did not protect them from attacks by the English and their Indian allies. Sometime after 1736 the **remnants** of these people disappear from history. It is assumed they **assimilated** into the Seminole tribe.

## The Seminole

### Who were they?

The Seminole tribe is NOT a Native Florida tribe but is a combination of tribes native to Georgia, the Carolinas and Alabama known as Muskogee, Yamasee and Upper and Lower Creek. These tribes, once very large and powerful, suffered the same decimation from slavery, starvation, disease and war as the Native Floridians. The **remnant** tribes took **refuge** in Florida to start a new life as far away from the European settlers as possible. In order to survive these few survivors were forced to form one tribe and to **adapt** to a new climate and surroundings. The Spanish referred to the group living in Florida as cimarrones, which means free, wild, not tied to tribes or villages. The people became known as the Seminole. African slaves who escaped from American plantations were welcomed into the tribe and became known as "Black Seminoles". They all enjoyed living in peace.

### Where did they live?

The Seminoles originally settled in central Florida where they quickly **adapted** to their new surroundings. They farmed and raised cattle and lived peacefully until their land became the target of United States settlement. The Seminole Wars that resulted forced the tribe to **retreat** further into the swamplands of the Everglades.

### How did they live?

Every member of the Seminole tribe is born into a **clan** or family group. Children belong to their mother's **clan**. Of the twenty original clans in Florida fourteen moved to Oklahoma and eight stayed in Florida. The Panther, Bird, Bear, Deer, Wind, Big Town, Snake and Otter are the Florida Seminole **clans**. For many years the **clan** lived in villages in the southern part of the Florida peninsula.

Their homes, called **chickees**, were simple-wooden frames made of cypress logs with roofs of palmetto leaves with no walls and or furniture. The family slept on the wooden platform that covered the floor. Members of the community took turns working on the village farm and everyone shared the responsibility of providing food for the village. Each family also had a smaller garden in which to grow their own food. They grew corn, beans, pumpkins and squash; hunted for deer, bear and manatees and caught fish and turtles and kept pigs. All food was prepared in the community cooking **chickee** where everyone ate together.

When a Seminole boy became a man he was given a new name and could then sit at the council fire with the other men and meet with the tribal elders. Seminole men had community responsibilities such as **chickee** building, working the village farm, hunting and making canoes for fishing and travel.

Seminole women also had responsibilities: they prepared all meals, did farm work with the men, tended their pigs, cared for their young children and made clothing. Young girls began wearing necklaces of large bead at an early age-adding more and more as they reached adulthood. Seminole women wore floor-length skirts and sort blouses trimmed with a ruffle. Over time, the clothing style changed. Seminole women created bright colorful patchwork clothing for which they are famous.

Each spring the Seminole New Year begins with the Green Corn Dance, an annual spiritual, religious and social celebration that last for four days and includes important ceremonies, dance and games.

## **The Seminoles Today**

Today the Seminoles are recognized as two separate tribes. The Seminole Tribe of Florida has more than 3,000 members and organized in 1957. The Miccosukee Tribe of Indians of Florida organized in 1962 and has about five hundred members. Both tribes formed governments and elect leaders to represent them at tribal councils and both are very closely related culturally.

The two Seminole tribes run many different kinds of businesses. They own and operate hotels, restaurants, and large farms that produce corn, citrus fruit and cattle. Today, most Seminole and Miccosukee wear modern clothing and work in a variety of jobs and professions. They live in houses and apartment buildings both in and outside of the reservation and drive cars to work.

Thousands of people gather each year at Seminole and Miccosukee festivals and celebrate their culture and history. Tribal members dress in traditional costumes, perform ceremonial dances and sing traditional songs and tell old stories. Tribal members re-create traditional arts and crafts and patchwork clothing which they sell. Although much has changed the Seminole and Miccosukee remain proud of their people and their past.



# ETHNOBOTANY

**GREEN PAGE**

## **WHAT IS BOTANY?**

**BOTANY** is a branch of biology that focuses on the study of plants. A **BOTANIST** is a person who studies the structure of plants and their role in the environment.

A **HORTICULTURIST** specializes in the **CULTIVATION** of plants. The branch of horticulture that focuses on plants grown for food and textiles is called **AGRICULTURE**.

***You don't have to be a scientist to be a botanist.  
You don't have to be a gardener to be a botanist- but it helps!***

Botanists are explorers, and history is full of tales of people who traveled to far-off lands in search of rare and unusual plants. Many of these botanists encountered disease, wars and natural disasters while carrying out their work. As a result a few even died! One of the earliest botanists to explore Florida was William Bartram. In 1774 he traveled through northern Florida and discovered many species of plants that were new to science. The Seminoles called him "Puc Puggy" which means "Flower Hunter".

***Even though much of our Earth has been explored, present-day botanists  
are still discovering new plants.***

Botanists use the physical characteristics of plants to identify and categorize them. Basic identification is often accomplished with the use of a hand-held magnifying lens. Plants that are either too small or too similar to readily distinguish must be analyzed under microscopes for accurate identification. In recent years, DNA extraction and analysis has brought an incredible degree of accuracy to plant identification. Another good identification method uses chemical extracts scanned with light waves to reveal a plant's "fingerprint"!

## **WHAT IS ETHNOBOTANY?**

The specialized field of botany which focuses on the interaction of plants and humans is called **ETHNOBOTANY**. It is a combination of botany and anthropology, the study of human beings.

**BOTANY + ANTHROPOLOGY = ETHNOBOTANY**

Botanists in Florida are studying with Seminole tribes to record their knowledge of ethnobotany. They are also working in archaeological excavation sites to examine artifacts and plant fossils. Their findings are giving insight into the everyday lives of the Native people and their connection with plants.

## HOW LIVING THINGS ARE CLASSIFIED

Everything has a name so people easily recognize them. Some plants have more than one common name, depending on where you are, or who you ask. For example, one species of tree in Pan's Garden may be called Red Maple by someone, another person may call it Swamp Maple, or Florida Maple. This might lead to confusion. But if you use the scientific Latin name, *Acer rubrum*, it can only mean that single species of tree.

Latin was the language of the ancient Roman Empire. After the fall of the Roman Empire, people stopped speaking Latin and the language "died" (was no longer used). To this day, the language remains unchanged. Scientists, doctors and lawyers all over the world use Latin to assign permanent names and descriptive meanings or terminology. Even if you don't speak each other's language this allows people to communicate on an academic and scientific level. So, if you learn the Latin names of plants, you could identify with someone from Mexico, France or Japan without speaking a word of Spanish, French or Japanese.

Latin names for plants are similar to our names- but they are written backwards. The first name, the **genus**, is equal to our family name. The last name, the **species**, is a personal name. When we say "*Acer rubrum*", it is like saying, "Simpson, Bart".

Plant **family** names are also in Latin and usually end with "ceae". Plant families may be defined the one single trait, or an entire range of characters. In this instance, "*Acer rubrum*" belongs to the Aceraceae, or the Maple family.

Latin names tend to be descriptive. They may refer to what a plant looks like, it's uses, where it's from, or who discovered it. In our example, "*Acer*" is the Latin name for all of the maples, and "*rubrum*" means red, for the red color of its flowers. You may also notice that all Latin names are always italicized to distinguish them from other text.

## Who Was Carolus Linnaeus?

A plant scientist from Sweden named Carolus Linnaeus (1707-1778) invented the science of classifying things, which is called **TAXONOMY**. His classifying system gave everything a Latin name. Actually Carolus Linnaeus was not the scientist's real name, but a Latin one that he invented for himself because he liked his classifying system so much.

## Class Activity:

Ask students to do research on Latin terminology (the internet is a great resource, or make a list of Latin terms for them to choose from). Ask them the below questions and record them on the board.

### What Is All This Latin About?

What Latin name would you honor yourself with? \_\_\_\_\_

Look up some Latin terminology and make up descriptive names for your friends or family.

<u>English Name</u>	<u>Latin Name</u>
_____	_____
_____	_____

Every plant has a common name in English and a scientific name in Latin. Many people are confused and have trouble pronouncing these strange words. DON'T PANIC!!!

Students will *not* be expected to know Latin names of plants during their visit, however, we urge you to familiarize them with the importance of using Latin names in science. There is a section in this manual that introduces students to the history and importance of classification using fun exercises. "Brainstorming" with the entire class may produce the best results for these activities

### Answers to the Latin Name Game (game on following page)

1. California Redwood
2. Easter lily
3. Banana
4. Apple
5. Corn
6. Tomato
7. Lettuce
8. Red Oak
9. Dandelion
10. Orange

### The Latin Name Game

Your Latin name is *Homo sapiens*, which means “man with sense”. A certain kind of violet is called *Viola canadensis*. Your cat’s name may be “Fluffy” to you, but her correct scientific name is *Felis domestica*. If your cat were a lion, its scientific name would be *Felis leo*.

Let’s look at your human name *Homo sapiens*. The first name in the classification system is called the genus and starts with a capital letter. The second name is the species and starts with a small letter. Below are the Latin names for some common plants. Each name is followed by a clue. See if you can identify them using their common names from the word bank.

### Word Bank

Apple	Orange	Red Oak	California Redwood	Corn
Easter Lily	Dandelion	Banana	Lettuce	Tomato

<b><u>LATIN NAME</u></b>	<b><u>CLUES</u></b>	<b><u>COMMON NAME</u></b>
--------------------------	---------------------	---------------------------

- |                                      |  |       |
|--------------------------------------|--|-------|
| 1. <i>Sequoia sempervirens</i> giant | California tree                                  | _____ |
| 2. <i>Castalia adorata</i>           | common Easter flower                             | _____ |
| 3. <i>Musa paradisaca</i>            | yellow fruit that goes with cereal               | _____ |
| 4. <i>Malus pumila</i>               | keeps the doctor away                            | _____ |
| 5. <i>Zea mays rugosa</i>            | you like to pop and eat this                     | _____ |
| 6. <i>Lycopersicum esculentum</i>    | red, juicy salad vegetable<br>(actually a fruit) | _____ |
| 7. <i>Lactuca sativa</i>             | leafy salad vegetable                            | _____ |
| 8. <i>Quercus rubra</i>              | grown from acorns                                | _____ |
| 9. <i>Taraxaum officiale</i>         | common weed with yellow flower                   | _____ |
| 10. <i>Citrus sinensis</i>           | a favorite juice drink                           | _____ |

## Classifying Objects Activity

Classifying things can be very logical and be done in many different ways. Suppose you were given a deck of playing cards. How many ways could you separate them into groups? List your ideas.

Example: Separate the 52 cards into two colors: red and black

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

## Classify Leaves Activity

Cards are easy to classify. Now you will be given a set of leaves to classify. They will all be broad leaves like maple, elm or oak. They will not include needle-like leaves from pine trees. You do not have to identify them; just separate them into logical groups. Here are some leaf classification ideas that plant scientists use.

**VEINS:** How many main veins in the leaf?

**EDGES:** Leaves with notched, lobed, wavy or rounded edges



How many other ways can you find to group your set of leaves?

1. \_\_\_\_\_

4. \_\_\_\_\_

2. \_\_\_\_\_

5. \_\_\_\_\_

3. \_\_\_\_\_

6. \_\_\_\_\_

## ETHNOBOTANICAL DIRECTORY

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
<b>ACERACEAE</b> (Maple Family) <i>Acer rubrum</i>	Red (Swamp, Florida) Maple
<b>AGAVACEAE</b> (Century Plant Family)) <i>Agave decipens</i>	Century Plant
<b>ANNONACEAE</b> (Custard Apple Family) <i>Annona glabra</i>	Pond Apple
<b>AQUIFOLIACEAE</b> (Holly Family) <i>Ilex cassine</i> <i>Ilex vomitoria</i>	Dahoon Holly Yaupon Holly
<b>ARECACEAE</b> (Palm Family) <i>Sabal palmetto</i> <i>Serenoa repens</i>	Sabal Palm Saw Palmetto
<b>ASTERACEAE</b> (Aster Family) Helianthus debilis	Dune (Beach) Sunflower
<b>BORAGINACEAE</b> (Borage Family) <i>Cordia sebestena</i>	Geiger Tree
<b>BROMELIACEAE</b> (Pienapple Family) <i>Tillandsia usneoides</i>	Spanish Moss
<b>BURSERACEAE</b> (Torchwood Family) <i>Bursera simaruba</i>	Gumbo Limbo
<b>CACTACEAE</b> (Cactus Family) <i>Opuntia stricta var. dillenii</i>	Prickly Pear Cactus
<b>CANNACEAE</b> (Canna Family) <i>Canna flaccida</i>	Canna
<b>COMBRETACEAE</b> (Indian Almond Family) <i>Conocarpus erectus</i>	Silver Buttonwood

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
<b>CYCADACEAE</b> (Cycad Family) <i>Zamia pumila</i>	Coontie
<b>EQUISETACEAE</b> (Horsetail Family) <i>Equisetum hyemale</i>	Scouring Rush
<b>FAGACEAE</b> (Beech Family) <i>Quercus virginiana</i>	Live Oak
<b>IRIDACEAE</b> (Iris Family) <i>Iris hexagon</i>	Blue Flag Iris
<b>LAURACEAE</b> (Laurel Family) <i>Persea palustris</i>	Swamp Red Bay
<b>MAGNOLIACEAE</b> (Magnolia Family) <i>Magnolia grandiflora</i>	Southern Magnolia
<b>MYRSINACEAE</b> (Myrsine Family) <i>Ardisia escalloniodes</i>	Marlberry
<b>MYRTACEAE</b> (Myrtle Family) <i>Myrcianthes fragrans</i>	Simpson's Stopper
<b>PINACEAE</b> (Pine Family) <i>Pinus elliottii</i> var. <i>elliottii</i>	Slash Pine
<b>PIPERACEAE</b> (Pepper Family) <i>Peperomia obtusifolia</i>	Peperomia
<b>POLYGONACEAE</b> (Buckwheat Family) <i>Coccoloba uvifera</i>	Sea Grape
<b>POLYPODIACEAE</b> (Polypody Fern Family) <i>Acrostichum danaeifolium</i>	Leather-Leaf Fern
<b>PONTEDERIACEAE</b> (Water Hyacinth Family) <i>Pontederai cordata</i>	Pickeral Weed

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>
<b>RUBIACEAE</b> (Coffee Family) <i>Hamelia patens</i>	Firebush
<b>RUBIACEAE</b> (Coffee Family) <i>Psychotria nervosa</i>	Wild Coffee
<b>RUBIACEAE</b> (Coffee Family) <i>Randia aculeata</i>	White Indigo Berry
<b>SAPOTACEAE</b> (Sapodilla Family) <i>Chrysophyllum oliviforme</i>	Satin Leaf
<b>TAXODIACEAE</b> (Cypress Family)\)\) <i>Taxodium distichum</i>	Bald Cypress
<b>VERBENACEAE</b> (Vervain Family) <i>Callicarpa americana</i>	American Beautyberry



**THE NATIVE PLANTS  
IN PAN'S GARDEN**

**GREEN PAGE**

## Directory of Plants by Common Name

<u>Plant Common Name</u>	<u>Page</u>
American Beautyberry	48
Bald Cypress	49
Blue Flag Iris	50
Canna	51
Century Plant	52
Coontie	53
Dahoon Holly	54
Dune (Beach) Sunflower	55
Firebush	56
Geiger Tree	57
Gumbo Limbo	58
Leather (Leaf) Fern	59
Live Oak	60
Marlberry	61
Pond Apple	62
Peperomia	63
Pickeral Weed	64
Prickly Pear Cactus	65
Red (Swamp, Florida) Maple	66
Sabal Palm	67
Satinleaf	68
Saw Palmetto	69
Scouring Rush	70
Sea Grape	71
Silver Buttonwood	72
Simpson's Stopper	73
Slash Pine	74
Southern Magnolia	75
Spanish Moss	76
Swamp Red Bay	77
White Indigo Berry	78
Wild Coffee	79
Yaupon Holly	80

## AMERICAN BEAUTYBERRY

*Callicarpa Americana*

The American Beautyberry is named for the year-round display of beautiful magenta-colored berries, which cover its branches. Because so many different animals love to eat these berries, many gardeners plant these bushes to attract wildlife into their yards.

Native Americans ate American Beautyberry fruits, although they were not particularly tasty. Purple dye made from the berries colored clothing, pottery, and painted faces. Early settlers made jams and jellies from the fruit (adding lots of sugar!).



<b>SCIENTIFIC NAME:</b>	<i>Callicarpa americana</i>
<b>PRONOUNCIATION/ MEANING:</b>	<b>ka-lee-KAR-pa:</b> beautiful fruit <b>a-mare-ee-KAHN-ah:</b> American
<b>FAMILY:</b>	Verbenaceae (Vervain Family)
<b>HEIGHT:</b>	8'
<b>HABIT OF GROWTH:</b>	Mounding shrub
<b>HOW TO IDENTIFY:</b>	Oval, pointed, light green, fuzzy, evergreen leaves and buds; small pink flowers and magenta fruit are clustered around the branches
<b>HABITAT:</b>	Hammocks and rich woodlands throughout Florida

**BALD CYPRESS***Taxodium distichum*

The Bald Cypress can live to be hundreds of years old. Due to its massive size, it has been called the “redwood of the East Coast.” Unlike other conifers in Florida, Bald Cypress trees are deciduous; dropping its needles in the autumn and staying “bald” until spring. This tree often grows directly in standing water and has developed roots called “knees” that grow above the surface - these roots allow the tree to breathe when submerged, very much like a snorkel!

Lumber from bald cypress is highly resistant to rotting and termites. These traits have led to it being over-harvested. The few large Bald Cypress remaining in Florida are now found only in protected reserves.

Native Americans hollowed out the trunks of the larger cypress trees to make canoes. Trunks from smaller trees were used to form the frame of the chickee huts.



**SCIENTIFIC NAME:** *Taxodium distichum*

**PRONOUNCIATION/ MEANING:** **tax-O-dee-um:** in reference to its yew like foliage  
**DIS-ti-kum:** with leaves (needles) arranged in two opposite rows

**FAMILY:** Taxodiaceae (Cypress Family)

**HEIGHT:** 120'

**HABIT OF GROWTH:** upright spires, assuming a broad, pyramidal shape with maturity

**HOW TO IDENTIFY:** gray, flaky bark on buttressed trunks, inverted roots, called “knees”, usually extend above water; flat, fern-like, bright green foliage in spring and in summer, turns golden-bronze before dropping in autumn; small green cones occur along the branches

**HABITAT:** swamps and wet hammocks throughout the state

## BLUE FLAG IRIS

*Iris hexagona*

The Iris is a very popular garden plant grown for their beautiful flowers. Florida's native Blue Flag Iris blooms in the spring, producing spectacular drifts of purple-blue color in wetland areas.

Seminoles used the Blue Flag iris as a remedy to treat shock. When hunting, it was not uncommon for a hunter to be bitten by alligators or sharks, which were common prey. The hunter's body may go into shock-which can cause breathing difficulties, an irregular heartbeat and eventually death. The Blue Flag Iris was also cream or salve that sped healing and prevented infection of cuts and bruises. The root also treated digestive problems.



**SCIENTIFIC NAME:** *Iris hexagona*

**PRONOUNCIATION/  
MEANING:** **EYE-ris:** in Greek mythology, the Goddess of the Rainbow and a messenger to the gods  
**hecks-a-GO-na:** six-leaved, angled blossoms

**FAMILY:** Iridaceae (Iris Family)

**HEIGHT:** 2' (leaves) - 4' (flower stems)

**HABIT OF GROWTH:** herbaceous, upright

**HOW TO IDENTIFY:** evergreen, sword-shaped leaves growing in a fan shape; large, purple-blue, showy flowers in spring; large, green, pill-shaped, 4" fruit

**HABITAT:** swamps, drainage ditches, canals, marshy shores and cypress prairies throughout the state

### CANNA

*Canna flaccida*

Cannas are large perennial wetlands plants that can grow up to 5 feet tall. The leaves are 18 to 36 inches long and are light green. The plant blooms in summer with large yellow flowers.

The Native Floridians made ceremonial musical instruments similar to rattles by filling hollow turtle shells with Canna seeds. The Seminoles made the seeds into bullets for guns when no other materials were available.

A liquid food made from the starchy roots treated the elderly and sick tribe members who could not eat solid food.



**SCIENTIFIC NAME:**

*Canna flaccida*

**PRONOUNCIATION/  
MEANING:**

**KAN-uh:** (Greek) kanna- a reed  
**FLACK-sid-uh:** flaccida-flabby

**FAMILY:**

Cannaceae (Canna Family)

**HEIGHT:**

up to 5 feet

**HABIT OF GROWTH:**

perennial

**HOW TO IDENTIFY:**

upright reed-like stems and growth, leaves are light green, arrow-shaped and 18 to 36 inches long; yellow flowers bloom in summer.

**HABITAT:**

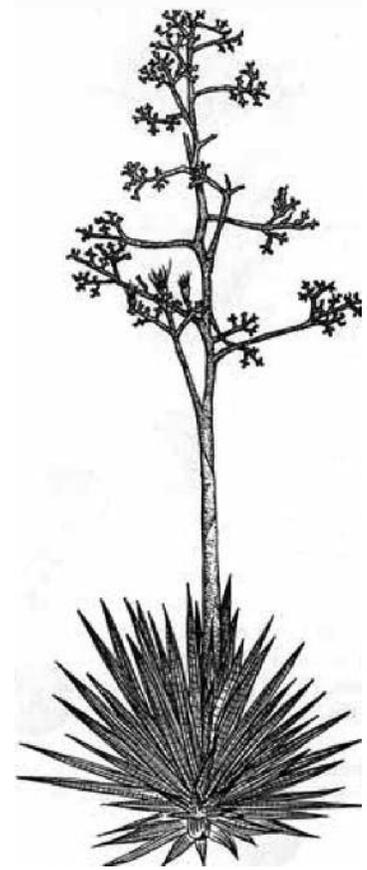
wetlands, aquatic

## CENTURY PLANT

*Agave decipiens*

The Century Plant grows in coastal areas and has thick, waxy sword-like leaves. The tip of each leaf ends in a very sharp needle-like point.

The Native Americans made thread and rope from the fiber of the Century Plant. The thick leaves were cut off, dried in the sun and pounded with a hammer-like tool to remove the out green material from the thin, yellow, stringy fiber. The fibers were then woven into thread for sewing clothing. The sharp points from the leaf tips were burned with fire in order to make them into strong and very sharp sewing needles.



**SCIENTIFIC NAME:** *agave decipiens*

**PRONOUNCIATION/ MEANING:** **uh-GAH-vay** (Mexican) meaning stone that cuts (Latin) illustrious referring to the plant's beauty  
**dee-SIP-ee-enz** (Latin) deceiving, false

**FAMILY:** Agavaceae (Century Plant Family)

**HEIGHT:** 3' – 6'

**HABIT OF GROWTH:** Low shrub with a short base

**HOW TO IDENTIFY:** Evergreen, thin, flat, gray-green leaves tipped with sharp spines; large white flowers are held in upright clusters on stalks

**HABITAT:** uplands, sandy scrub and coastal dunes

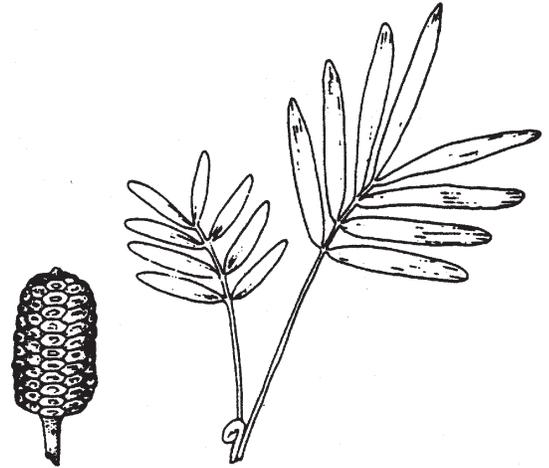
## COONTIE

*Zamia pumila*

Coontie is a very primitive plant that existed millions of years ago when dinosaurs roamed the Earth. Although the coontie looks like a fern or a small palm, it is actually a **cycad**, a close cousin of conifers, such as the bald cypress and slash pine. Coontie is the only cycad native to the United States.

Native Americans ground coontie root into a yellow flour that was baked into bread. In its raw state, this flour is **extremely poisonous** and may cause death when eaten. However, the Native Americans learned to remove the poisons by soaking coontie flour in water before cooking it.

For a time, the manufacture and export of coontie flour and starch was a main income source for early settlers of south Florida. They had little regard for conservation so that finding a coontie in the wild today is a rare experience. This plant is presently classified as an endangered species.



**SCIENTIFIC NAME:** *Zamia pumila*

**PRONOUNCIATION/  
MEANING:** **ZAH-mee-a:** (Latin) pine nut  
**pu-MIL-a:** low growing, small

**FAMILY:** Cycadaceae (Cycad Family)

**HEIGHT:** 3'

**HABIT OF GROWTH:** small shrub of fern- like appearance

**HOW TO IDENTIFY:** scaly, evergreen, feather-like leaves emerge from a very large woody base; no flowers; reddish-brown cones form in the center of the plant

**HABITAT:** found in hammocks and well-drained soil throughout the state, except in the panhandle

## DAHOON HOLLY

*Ilex cassine*

Visitors from northern regions are surprised to learn that there are holly trees native to Florida. The Dahoon Holly is a beautiful evergreen tree that has red berries at Christmas time just like the traditional English and American hollies used in decorations.

Native Americans used the leaves to brew “the black drink”, a special ceremonial tea that cleansed the body. This ritual was usually done just before a war or an important hunt. Only the men could drink this tea.



**SCIENTIFIC NAME:**

*Ilex cassine*

**PRONOUNCIATION/  
MEANING:**

**EYE-lecks:** Ancient Latin name  
**cass-SEEN-e:** Native American name

**FAMILY:**

Aquifoliaceae (Holly Family)

**HEIGHT:**

40'

**HABIT OF GROWTH:**

Upright, pyramidal tree

**HOW TO IDENTIFY:**

evergreen, glossy, oblong, 4" leaves; pale green flower clusters in spring followed by 1/4" red berries in winter

**HABITAT:**

wetland borders throughout the state

### DUNE SUNFLOWER, BEACH SUNFLOWER

*Helianthus debilis*

The Beach or Dune Sunflower is a spreading perennial with showy flowers that attract many species of butterflies. Small seeds follow the flowers and produce new plants.

The Native Florida tribes used this plant as medicine to treat many ailments. Entire plants were crushed up and made into a poultice to treat snake bites, spider bites and cuts.

Dune Sunflower flowers were cooked in liquid and made into medicine that cured chest pain and blood circulation problems. Ointment made from the leaves treated sores, swellings and bruises. Cut stems removed warts and sap from the stems killed thirst. Powdered seeds mixed into "cakes" that were eaten to cure tiredness.



Dune Sunflower plants also provided food for the Native tribes. Seeds were ground and sifted and made into dough for bread and cake seeds and baked on hot stones. Boiled seed coatings made red dye.

**SCIENTIFIC NAME:** *Helianthus debilis*

**PRONOUNCIATION/  
MEANING:** **heel-ee-ANTH-us;** (Greek) helios, sun; anthos, flower  
**DEB-i-liss;** (Latin) weak, referring to the stems

**FAMILY:** Asteraceae (Aster Family)

**HEIGHT:** 2 to 4 feet

**HABIT OF GROWTH:** spreading perennial

**HOW TO IDENTIFY:** small dark green leaves are semi-evergreen and about 2-4 inches long; flowers are 3 inches wide, have yellow "rays" (petals) that encircle a brown center and bloom year-round; fruits are not visible but attractive to birds.

**HABITAT:** coastal dunes, sunny area of hammocks

## FIREBUSH

*Hamelia patens*

Firebush is a large shrub with shiny, evergreen leaves that grows in the hammocks and wetlands. Bright, slender, tubular orange flowers appear that bloom year-round.

The Native Americans crushed the Firebush leaves to make medicine and put it directly on cuts, burns, insect bites, stings, sores and rashes.

Crushed leaves and fruit added to bath water treated skin disease and relieved arthritis pain.

Tannin in the leaves and stems tanned leather and the black fruits were eaten fresh from the bush or made into a drink.



**SCIENTIFIC NAME:**

*Hamelia patens*

**PRONOUNCIATION/  
MEANING:**

**huh-MEE-lee-uh;** honors Henry L. Duhamel de Monceau, early French botanist  
**PAT-enz;** (Latin) meaning open or spreading

**FAMILY:**

Rubiaceae (Coffee Family)

**HEIGHT:**

6 to 12 feet and the same in width

**HABIT OF GROWTH:**

shrub

**HOW TO IDENTIFY:**

soft stems hold evergreen leaves 4-8 inches long in whorls (clusters) of three; flowers are bright orange, slender, tubular and 1-1 ½ inches long; fruits are ½ inch black and oval

**HABITAT:**

moist to wet areas, hammocks and wetlands

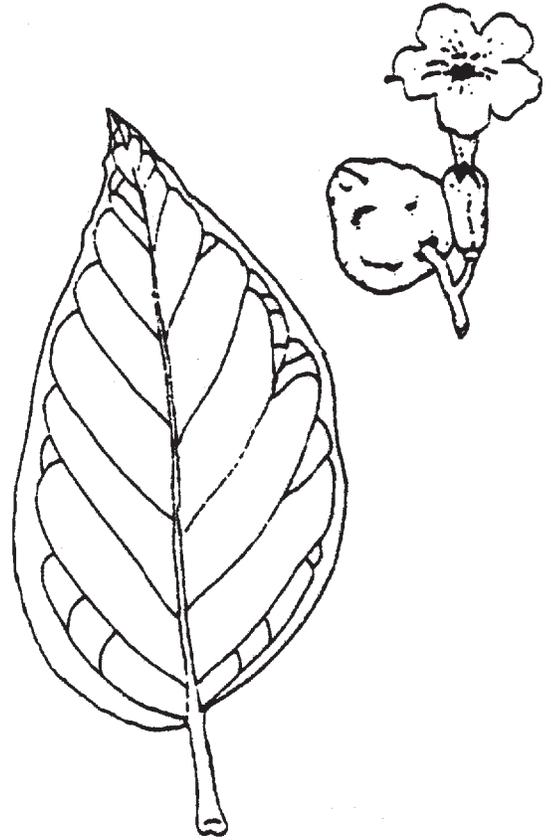
## GEIGER TREE

*Cordia sebestena*

The Geiger Tree is regarded as one of the most beautiful trees of southern Florida and is very popular for landscaping. Its spectacular, bright orange flowers cover the tree from early spring through autumn. The Geiger Tree is native to the Keys and is very sensitive to cold, so it won't be found growing much further north of Palm Beach County.

It is said that this tree was named by John James Audubon for his friend, John Geiger, a man who made his living salvaging cargo from shipwrecks in the Keys.

The Geiger Tree has an edible, ivory-colored, fruit that is shaped like a pear and smells like bananas. The leaves are very coarse and were used for scouring pots and polishing wood.



**SCIENTIFIC NAME:** *Cordia sebestena*

**PRONOUNCIATION/ MEANING:** **Cor-DEE-ya:** named for Valerius Cordus, 16<sup>th</sup> century German scholar  
**seb-BES-sten-ah:** common name for a related species

**FAMILY:** Boraginaceae (Borage Family)

**HEIGHT:** 20'

**HABIT OF GROWTH:** Small tree with a rounded crown

**HOW TO IDENTIFY:** Round, pointed, coarse, evergreen leaves; bright orange, 1" flowers in clusters; ivory, 2", pear-shaped fruit

**HABITAT:** Native to the Florida Keys, in well-drained soil.

## GUMBO LIMBO

*Bursera simaruba*

The Gumbo Limbo is one of the most curious-looking plants of south Florida. It is a big, stout tree with a lopsided trunk, and twisted, crooked branches covered in red, peeling bark. Local people think that the tree looks as if it were badly sunburned, and call it the "tourist tree"

When cut, the wood exudes thick gum-like sap that smells like turpentine and is used in glue, varnish and medicines, such as liniments. **Some people are allergic to the sap of Gumbo Limbo and should be careful around this tree.**

The wood of the Gumbo Limbo is soft and lightweight. It carves well and was the preferred wood for making carousel horses before plastics were invented. Seminoles used the wood to carve medicine bowls. The leaves made a tea that has a slight aftertaste of varnish.



**SCIENTIFIC NAME:**

*Bursera simaruba*

**PRONOUNCIATION/  
MEANING:**

**burr-SER-a:** for Joachim Burser, a German botanist  
**sim-a-RUBE-a:** resembles the simaruba tree.

**FAMILY:**

Burseraceae (Torchwood Family)

**HEIGHT:**

60'

**HABIT OF GROWTH:**

Large, irregular tree with a twisted trunk and branches

**HOW TO IDENTIFY:**

Smooth, red-colored bark which flakes off in papery pieces; compound, evergreen, leaves drop off for a few weeks in late winter; clusters of inconspicuous, pale green flowers are followed by 1/2" reddish, round fruit

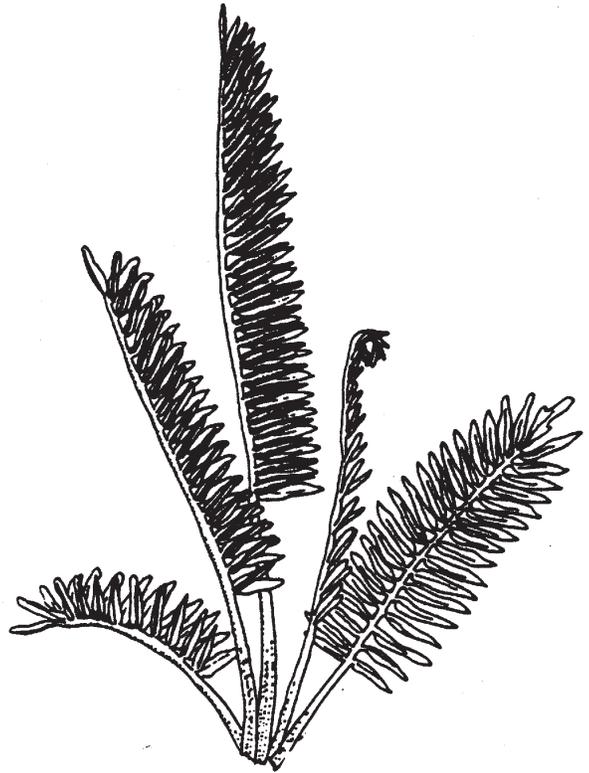
**HABITAT:**

Coastal hammocks in southern Florida.

**LEATHER-LEAF FERN***Acrostichum danaeifolium*

The Leather Fern is the tallest fern in North America and occurs only in Florida. Ferns are one of the oldest groups of plants. They have a very primitive structure and do not produce flowers or seeds; instead, they produce dust-like spores. The term "frond" describes their leaves because they are so different from other plants. Spores grouped in patterns, are usually located on the undersides of fronds.

The Native Americans used the uncoiling, new fronds to eat raw or cooked in several ways like asparagus. Seminoles made medicine of the plant to rub on the body as a treatment for high fevers.

**SCIENTIFIC NAME:***Acrostichum danaeifolium***PRONOUNCIATION/****a-CROS-ti-chum:** refers to the arrangement of spores on the leaflets.**MEANING:****da-na-ay-ee-FOL-ee-um:** leaves like the poet's laurel, Danae.**FAMILY:**

Polypodiaceae (Polypody-Fern Family)

**HEIGHT:**

3' - 10'

**HABIT OF GROWTH:**

Herbaceous, upright

**HOW TO IDENTIFY:**

Large, thick, bright, evergreen fronds; dark brown spores completely cover the underside of fruiting fronds

**HABITAT:**

Swamps and wet forests in central and southern Florida

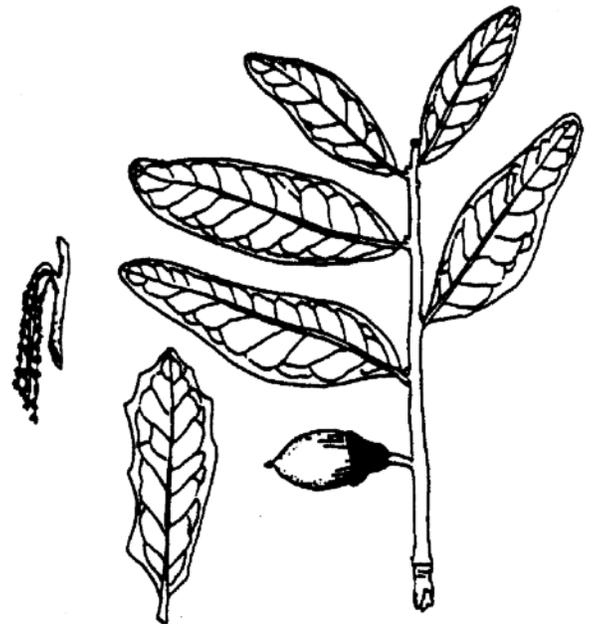
## LIVE OAK

*Quercus virginiana*

The Live Oak is so named because it lives for hundreds of years and is evergreen. Cabinets, wood floors and furniture are made from the Live Oak wood because it is beautiful, strong and heavy.

Between the 1790s and the 1890s lumber from the Live Oak was especially important in ship building. The U.S.S. Constitution, an American battleship during the Revolutionary War, earned its nickname, "Old Ironsides", because when the British ships fired cannonballs at the battleship, they bounced right off because the Live Oak ship was so strong!

Native Americans also used the wood for building and making tools. Live Oak fruits, called acorns, were ground up to make oil, porridge or bread. Tannic acid from leaves and bark was used to tan (preserve) animal hides, which could then be made into robes, blankets or clothing. Buff, gold, orange, and yellow colored dyes were made from Live Oak bark.



**SCIENTIFIC NAME:** *Quercus virginiana*

**PRONOUNCIATION/ MEANING:** **KWAR-cuss:** ancient Celtic name  
**vir-gin-ee-AY-na:** from Virginia

**FAMILY:** Fagaceae (Beech Family)

**HEIGHT:** 40' - 80' high and 60' - 100' wide

**HABIT OF GROWTH:** large tree with a wide, spreading canopy

**HOW TO IDENTIFY:** pale grey bark and massive, horizontal, arching branches; evergreen leaves are narrow and dark, glossy green; tiny, pale green flowers are held in catkins; fruit is a small brown acorn

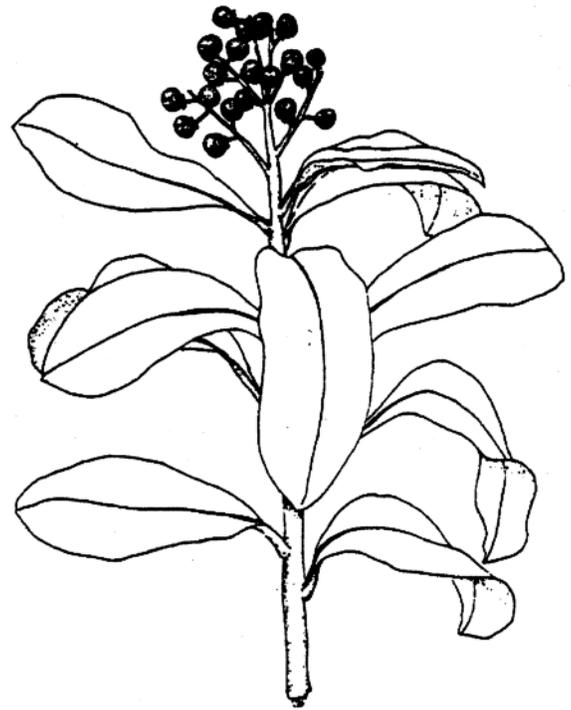
**HABITAT:** uplands and hammocks throughout Florida

## MARLBERRY

*Ardisia escallonioides*

Marlberry is a beautiful flowering tree found in coastal hammocks and ridges in southern Florida. Its name comes from its small, round, marble-sized fruit; however, this tree is often incorrectly called "marble berry."

The Seminoles mixed the leaves with tobacco to give it flavor. Marlberry fruits were used as food however; they are not very flavorful and only eaten when other more tasty foods were scarce.



**SCIENTIFIC NAME:**

*Ardisia escallonioides*

**PRONOUNCIATION/**

**ar-DEE-see-a:** Greek for "point of the arrow, referring to the shape of the flower petals

**MEANING:**

**es-call-O-nee-oy-dees:** resembling *Escallonia*

**FAMILY:**

Myrsinaceae (Myrsine Family)

**HEIGHT:**

20-25'

**HABIT OF GROWTH:**

Shrub or small tree; upright

**HOW TO IDENTIFY:**

Shiny, evergreen, oblong, pointed leaves; small, white, fragrant flowers form in clusters at the branch tips; round, 1/4", dark purple fruit

**HABITAT:**

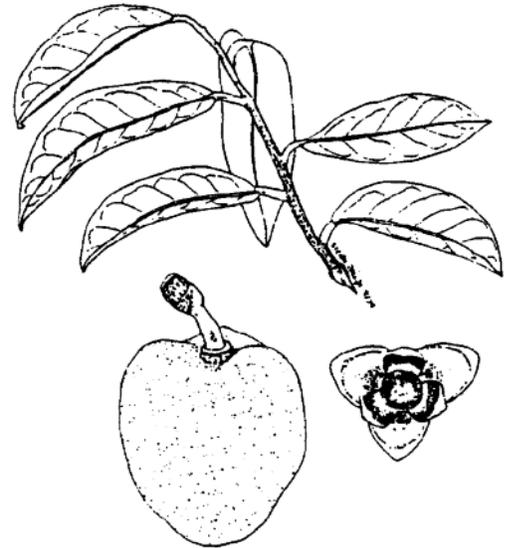
Rock lands, hammocks and pinelands in south Florida

## POND APPLE

*Annona glabra*

The Pond Apple likes to grow where the soil is very wet and rich. Huge forests of giant Pond Apple trees used to grow all around Lake Okeechobee, but were cleared to make way for farming. Today it is rare to see a big Pond Apple tree.

The fruit of the Pond Apple was a favorite food of the Native Americans and the early settlers. Its wood is very light and floats easily, and was used to make rafts, paddles, bobbers for fishing lines and floats for fishing nets.



**SCIENTIFIC NAME:**

*Annona glabra*

**PRONOUNCIATION/  
MEANING:**

**an-NO-na:** from anor, a native name for the fruit of its relative, the sweetsop  
**glab-ra:** smooth

**FAMILY:**

Annonaceae (Custard Apple Family)

**HEIGHT:**

20-60'

**HABIT OF GROWTH:**

Irregular, mounding shrub, eventually grows into a tree with a thick, buttressed trunk

**HOW TO IDENTIFY:**

Evergreen, oblong, pointed leaves; strange, fleshy, bell-like flowers hang from short stalks; large, green-yellow, bumpy fruit that looks like a mango

**HABITAT:**

Wetlands, stream banks and hammocks in South Florida

## PEPEROMIA

*Peperomia obtusifolia*

Peperomia has round, smooth dark green leaves and grows in low clumps in the hammocks.

The Native Floridians used this plant as medicine to treat coughs, colds, asthma and upper respiratory infections.



**SCIENTIFIC NAME:**

*Peperomia obtusifolia*

**PRONOUNCIATION/  
MEANING:**

**pep-per-ROE-mee-uh;** (Greek) meaning pepper  
**ob-too-siff-FOLE-lee-uh;** (Latin) meaning blunt

**FAMILY:**

Piperaceae (Pepper Family)

**HEIGHT:**

½ to 1 foot

**HABIT OF GROWTH:**

spreading ground cover

**HOW TO IDENTIFY:**

leaves are evergreen, smooth, dark green and rounded, about 2 to 4 inches in size; small white flowers appear throughout the year; fruit is about ½ inch, oval, brown and fleshy

**HABITAT:**

hammocks

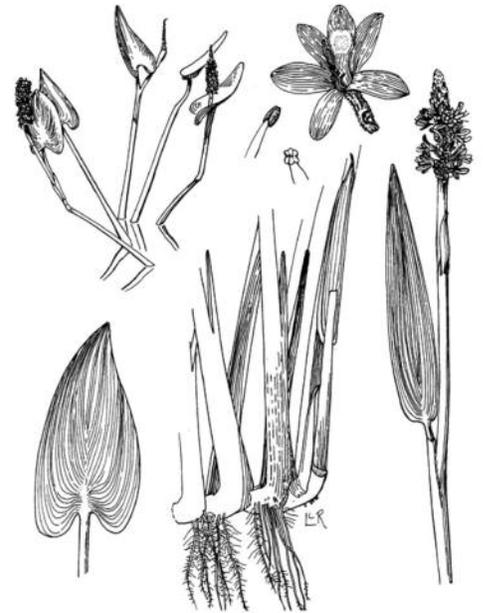
## PICKERAL WEED

*Pontederia cordata*

This aquatic plant grows around the edges of ponds and lakes and in shallow wetlands in water no more than 12 inches deep. Foliage sprouts each year from below the water's surface and stands several feet above the water.

Beautiful purple-blue flower spikes appear in the spring, summer and fall. The plant is very attractive to butterflies.

The Native Americans gathered seeds directly from the plant, then boiled and ate them like cereal. The ground up seeds made flour for making bread.



**SCIENTIFIC NAME:** *Pontederia cordata*

**PRONOUNCIATION/ MEANING:** **pon-tee-DEER-ree-uh;** after Doctor Guilo Pontedera  
**kor-DAHT-a;** (Latin) meaning heart-shaped

**FAMILY:** Pontederiaceae (Water Hyacinth Family)

**HEIGHT:** 3 to 5 feet

**HABIT OF GROWTH:** clumping stems; ground cover

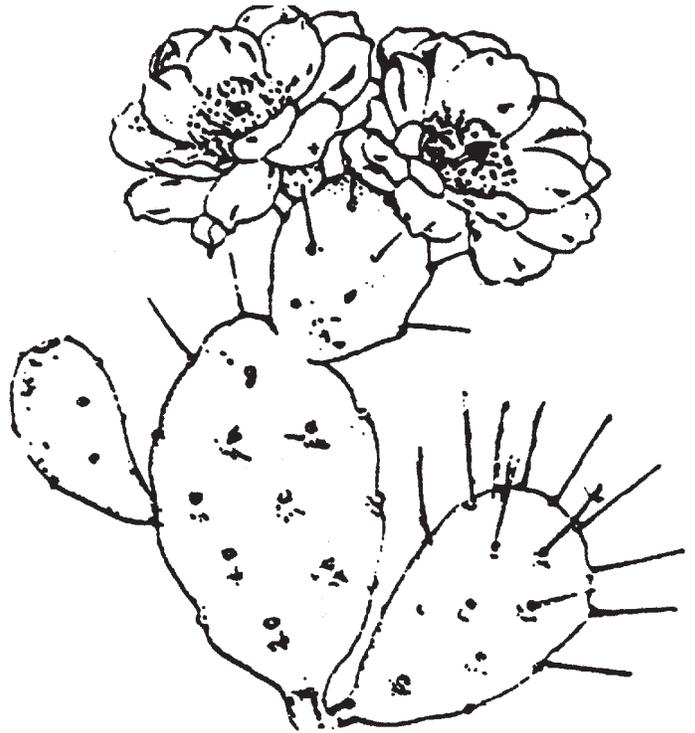
**HOW TO IDENTIFY:** leaves are deciduous, green, elongated heart-shaped and 12 to 18 inches long; flowers are blue-purple spikes that bloom in spring, summer and fall; no fruit is produced on this plant

**HABITAT:** wetlands, aquatic

**PRICKLY PEAR CACTUS***Opuntia stricta, var. dillenii*

The Prickly Pear Cactus is the most common species of cactus native to Florida. It is used in cooking to add a wonderful flavor to special dishes, and makes a tasty jelly. Scientists who are now experimenting with the Prickly Pear Cactus think that the chemicals within it will make an important medicine that can help people with heart problems.

Native Americans ate the sweet fruit of Prickly Pear and ground its seeds into flour. The fruit is indeed prickly and must be scalded to remove the tiny spines that cover it. The pads have larger spines and are also edible if these are removed. However this part of the plant was usually fed to the horses and cattle, because it wasn't as sweet and tasty.

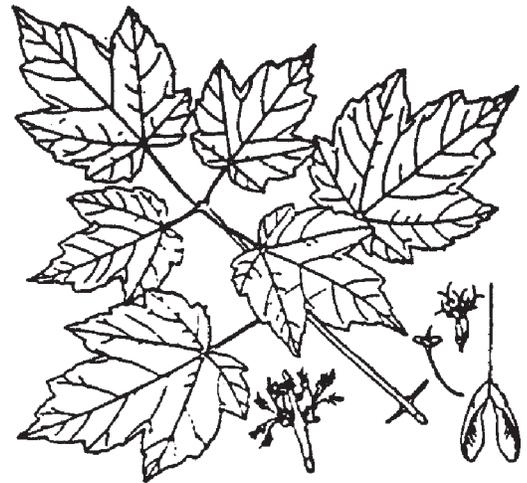


<b>SCIENTIFIC NAME:</b>	<i>Opuntia stricta</i>
<b>PRONOUNCIATION/ MEANING:</b>	<b>o-PUNT-ee-a:</b> probably from Opus, town in Greece <b>STRICT-a:</b> strict, upright var. <i>dillenii</i> (DILL-EN-ee-eye): expanded
<b>FAMILY:</b>	Cactaceae (Cactus Family)
<b>HEIGHT:</b>	6' - 8'
<b>HABIT OF GROWTH:</b>	thick-stemmed shrub; irregular and upright
<b>HOW TO IDENTIFY:</b>	thick, flat, evergreen pads, up to 12" long and 6"-8" wide, bear very fine, sharp, 2" spines in tight clusters; large, showy, yellow 4" flowers in spring, followed by purple egg-shaped fruit
<b>HABITAT:</b>	back side of coastal dunes and scrub uplands of south Florida

**RED MAPLE,**  
(SWAMP MAPLE,  
FLORIDA MAPLE)  
*Acer rubrum*

Maples are trees mostly found in forests of the northern U.S. and Canada; however, one species grows all the way down into the Everglades. This tree is known by three common names: Red Maple, due to its red flowers; Swamp Maple, because it grows in wet areas; or Florida Maple.

This maple is deciduous, which means it drops its leaves in the autumn and remains bare all winter. In early Spring, tiny red flowers cover the branches before new leaves appear. Its fruit has a papery wing on one end, which spins when it drops - children play "helicopter" with them.



Native Americans used the wood of this tree to make arrowheads, spoons and cooking utensils. The bark was made into a tonic, or cure, for muscle pain and was made into black and brown dyes.

**SCIENTIFIC NAME:** *Acer rubrum*

**PRONOUNCIATION/ MEANING:** **AY-sir:** (Latin) for maple  
**ROO-brum:** red, referring to its flowers

**FAMILY:** Aceraceae (Maple)

**HEIGHT:** 115'

**HABIT OF GROWTH:** Large tree

**HOW TO IDENTIFY:** Deciduous, thin, dark green, lobed leaves, pale underneath, that turn red and yellow in autumn; small red flowers and green winged fruit

**HABITAT:** Swamps and wetland areas throughout Florida except for the Keys

### SABAL PALM

*Sabal palmetto*

The State tree of Florida is the Sabal Palm, and it grows just about everywhere. It is also known as the Cabbage Palm because food known as “swamp cabbage” can be made from the central bud of this tree (unfortunately, removing the bud also kills the tree!). The base of each branch often remains attached to the trunk after the old leaves have broken away. These attached branch bases provide the tree with a protective layer of insulation against fire and cold temperatures.

The Sabal Palm was the most important plant to the Native Americans because it provided many things: lumber from the trunk, leaves to thatch the roofs of their chickee huts, fiber for kindling, rope and clothing, sap for drinking, and the central bud and berries for food.



**SCIENTIFIC NAME:** *Sabal Palmetto*

**PRONOUNCIATION/  
MEANING:** **SAY-bal:** unexplained origin  
**pahl-MET-to:** referring to leaves shaped like the palm of a hand

**FAMILY:** Arecaceae (Palm Family)

**HEIGHT:** 90'

**HABIT OF GROWTH:** a straight, single trunk growing upright or at a slight angle

**HOW TO IDENTIFY:** trunks are rough, bare, brown in color, usually with woody branch bases still attached; leaves are evergreen, fan-shaped, dull green, up to six feet in length; small, cream colored flowers are produced in large inflorescences; fruit is a 1/2" oval black berry

**HABITAT:** throughout Florida in uplands, hammocks and wetlands

## SATIN LEAF

*Chrysophyllum oliviforme*

The Satin Leaf is a unique and beautiful native tree in southern Florida. When the air is still, the tree is dark green in color, but the slightest breeze lifts its leaves to show off shimmering golden-brown undersides.

The Native Americans used the leaves for scouring wood to give it a smooth finish; as we use sandpaper today. The fruit was eaten and extremely chewy and sweet; perhaps it was the native people's chewing gum!



**SCIENTIFIC NAME:**

*Chrysophyllum oliviforme*

**PRONOUNCIATION/  
MEANING:**

**CRIS-o-fil-um:** (Greek) golden leaf  
**O-liv-ee-FOR-may:** referring to the olive-shaped fruit

**FAMILY:**

Sapotaceae (Sapodilla Family)

**HEIGHT:**

30'

**HABIT OF GROWTH:**

Tree with upright, arching branches

**HOW TO IDENTIFY:**

oval, pointed leaves, bright, shiny above, felt-like, golden brown, and iridescent beneath; black, olive shaped fruit follows clusters of small, green flowers

**HABITAT:**

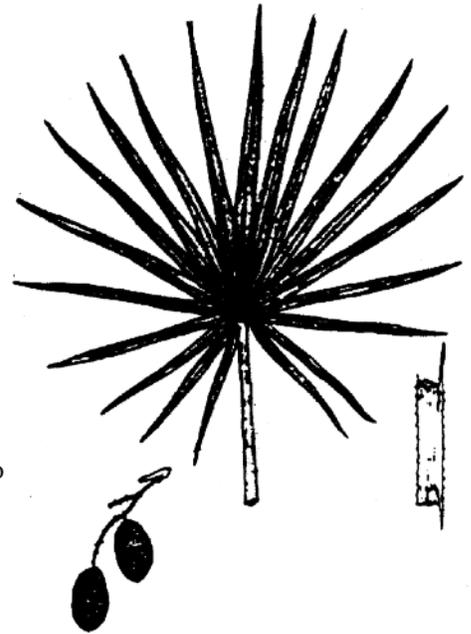
hammocks and pinelands in southern Florida

## SAW PALMETTO

*Serenoa repens*

Saw palmettos are small palms that grow in large thickets all over Florida. Their spiny stems and pointed leaves provide cover and protection for many wildlife species. The flowers of saw palmetto produce nectar and are a leading source of honey. In recent years scientists have discovered that a compound from the berries can be used to prevent some forms of cancer.

Native Americans used the fruit for food, but the taste is horrible. As with the cabbage palm, the terminal bud, or heart, of saw palmetto is edible. Tannic acid from the roots and stems of this palm were used to tan leather. The palm fronds were used to make thatched roofs for chickee huts, and to weave into baskets and sleeping mats. Fiber from around the trunk of the Saw Palmetto was used to make thread and light rope.



<b>SCIENTIFIC NAME:</b>	<i>Serenoa repens</i>
<b>PRONOUNCIATION/ MEANING:</b>	<b>Sare-ah-NO-ah:</b> named for the 19th century botanist, Sereno Watson <b>RAY-pens:</b> creeping; crawling, in reference to the plants sprawling growth habit
<b>FAMILY:</b>	Arecaceae (Palm Family)
<b>HEIGHT:</b>	7' - 15'
<b>HABIT OF GROWTH:</b>	sprawling, branching shrub
<b>HOW TO IDENTIFY:</b>	evergreen, 4', fan-shaped leaves are held on saw-toothed stems; flowers are small, white, and fragrant, borne in large inflorescences; fruit is a small, black, oval berry
<b>HABITAT:</b>	hammocks, pinelands, and scrub uplands throughout the state

## SCOURING RUSH

*Equisetum hyemale*

The Scouring Rush Horsetail is a member of an ancient plant family and has lived on Earth for 300 million years!

This dark green plant has tall, hollow stems banded with black or brown bands rings.

Florida Natives used the bristled stems of this plant to scour (wash, sand or polish) wooden bowls and cooking and eating utensils.

The Natives also used Scouring Rush Horsetail as medicine to cure kidney stones and stomach ulcers and to stop bleeding; the stems pulled and held together the openings of fresh wounds,



**SCIENTIFIC NAME:**

*Equisetum hyemale*

**PRONOUNCIATION/  
MEANING:**

**ek-wi-SEE- tum;** (Latin)

equi; horse;

seta; bristle

**hi-eh-MAY-lee;** evergreen

**FAMILY:**

Equisetaceae (Horsetail Family)

**HEIGHT:**

2-5 feet

**HABIT OF GROWTH:**

erect stems

**HOW TO IDENTIFY:**

long, bristled stems with leaves that have very small nodes that look like black rings; brown cone-like tips contain spores for reproduction

**HABITAT:**

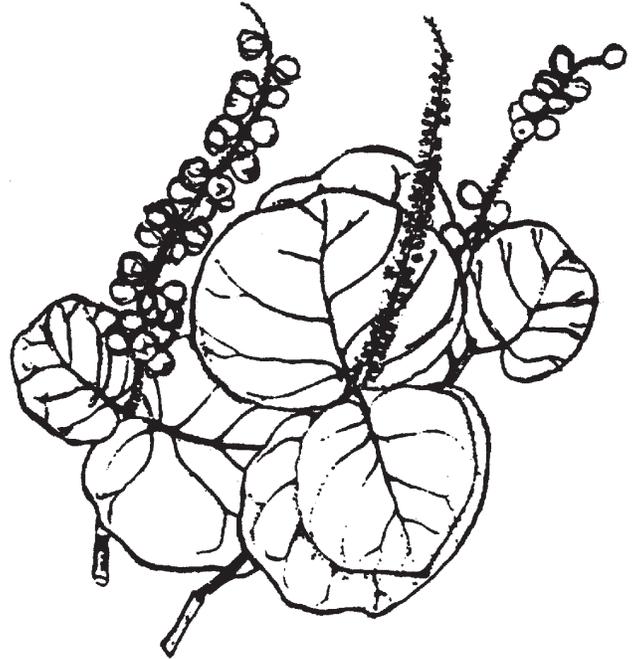
wetlands

## SEA GRAPE

*Coccoloba uvifera*

Sea grapes are one of the few trees in Florida that will grow right on the beach. These attractive, salt-tolerant trees bear purple, grape-like fruits used in making jams, jellies and even wine. The flowers are fragrant and a favorite of honeybees.

Coastal tribes ate sea grapes regularly. The round, leathery leaves were plates to hold or wrap up hot food.



**SCIENTIFIC NAME:**

*Coccoloba uvifera*

**PRONOUNCIATION/**

**ko-ko-LOBE-a:**

(Greek) lobed berry

**MEANING:**

**oo-VIFF-er-a:** grape bearing

**FAMILY:**

Polygonaceae (Buckwheat Family)

**HEIGHT:**

25'

**HABIT OF GROWTH:**

Shrub or tree; crooked, forms broad mounds

**HOW TO IDENTIFY:**

Smooth, pale grey bark, peeling in patches; round, leathery, evergreen leaves with red veins; small, ivory blossoms are borne on 1' long stalks in spring; purple, 1/2", round 'grapes' hang in long bunches

**HABITAT:**

Beaches and coastal dune forest in southern Florida

## SILVER BUTTONWOOD

*Conocarpus erectus var. sericea*

The Silver Buttonwood is a large shrub or small tree found on coastal dunes. It gets its name from its flowers held in tight little clusters that look like buttons. The leaves are soft, hairy, and silver colored. This plant is very salt-tolerant and commonly planted as hedges near the beach.

Native Americans found the wood to be an excellent source of charcoal for smoking and curing meat and fish. An extract from the bark was treated skin rashes and diseases, diarrhea, and bleeding.



**SCIENTIFIC NAME:**

*Conocarpus erecta*

**PRONUNCIATION/  
MEANING:**

**CONE-o-car-pus:** describing the conical fruit  
**ay-REK-tah:** upright

**FAMILY:**

Combretaceae (Indian Almond Family)

**HEIGHT:**

60'

**HABIT OF GROWTH:**

Large shrub or tree with upright branching

**HOW TO IDENTIFY:**

Narrow, pointed, dull green or silver, evergreen leaves; light green flowers held in round, button-like clusters; fruit is a purplish-green cone

**HABITAT:**

coastal dunes and mangrove forest in central and southern Florida

## SIMPSON'S STOPPER

*Myrcianthes fragrans*

Simpson's Stopper has smooth, reddish bark that flakes off in papery sections. The small, round leaves of this plant are dark green and give off a spicy scent when crushed. Star-like, fragrant, white flowers appear on the tips of branches and red berries follow that birds love to eat.

The leaves of this plant were crushed and made into tea and was medicine that stopped diarrhea; thus the name the 'Stopper Tree'! The strong, smooth wood made arrows and handles for spears and tools.



**SCIENTIFIC NAME:**

*Myrcianthes fragrans*

**PRONOUNCIATION/  
MEANING:**

**MEER-see-ann-thees:** resembling *Myrcia*.

**FRAY-granz:** fragrant

**FAMILY:**

Myrtaceae (Myrtle Family)

**HEIGHT:**

20'

**HABIT OF GROWTH:**

shrub or small tree; upright

**HOW TO IDENTIFY:**

shiny, aromatic, evergreen, 3/4" leaves; small, white, fragrant flowers held in clusters at the branch tips; oval, 1/4", red fruit

**HABITAT:**

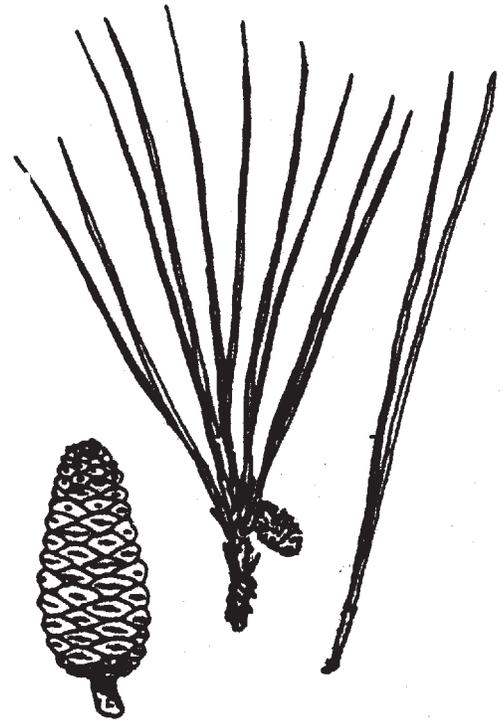
coastal hammocks and uplands in central and southern Florida

## SLASH PINE

*Pinus elliottii*, variety *elliottii*

One of the most important pines in the southeast for commercial purposes is the slash pine. The common name is derived from the turpentine face or "slash" cut into this tree's bark to collect its resinous sap. The sap is used in the preparation of turpentine and rosin (rosin is used to make furniture varnish). The culture and processing of this tree contributes significantly to Florida's economy. More than 100 million slash pines are planted in Florida each year to replace those cut for lumber, pulpwood, and rosin.

Seeds were extracted from pine cones by Native Americans to be roasted or eaten raw. The inner bark of the tree was also eaten. Needles were used for floor coverings or bedding. The resin had medicinal uses.



**SCIENTIFIC NAME:**

*Pinus elliottii*

**PRONOUNCIATION/  
MEANING:**

**PI-nus:** (Latin) pine

**el-ee-OT-ee:** in honor of Stephen Elliott, a Botanist variety *elliottii*: used to differentiate this form Of the species from the variety *densa*, found only in South Florida

**FAMILY:**

Pinaceae (Pine Family)

**HEIGHT:**

100'

**HABIT OF GROWTH:**

upright tree, becoming round-topped when mature

**HOW TO IDENTIFY:**

rough, scaly, reddish-brown bark; evergreen needles up to 5" long, in groups of two or three; tiny male flowers are held in catkins, female flowers in cones; fruit is a broadly ovoid cone, up to 6" in length

**HABITAT:**

northern coastal hammocks and uplands

## SOUTHERN MAGNOLIA

*Magnolia grandiflora*

The Southern Magnolia is a grand tree of the forest and considered to be among the most beautiful flowering trees in the world.

The Native Americans made tools from the heavy wood of the Magnolia and the beautifully scented flowers provided oil with lemony fragrance.



**SCIENTIFIC NAME:** *Magnolia grandiflora*

**PRONOUNCIATION/** **mag-NO-lee-a:** for P. Magnol, an early French botanist.

**MEANING:** **gran-dee FLO-ra:** large flowered

**FAMILY:** Magnoliaceae (Magnolia Family)

**HEIGHT:** 75'

**HABIT OF GROWTH:** large, pyramidal tree; often with a straight central trunk and compact head.

**HOW TO IDENTIFY:** huge, stiff, evergreen leaves that are waxy, dark green above and fuzzy, brown or light green below; huge, white, fragrant blossoms are produced in spring and summer; fruit is a brown cone that splits to reveal shiny red berries

**HABITAT:** swamps and wet hammocks throughout the state

## SPANISH MOSS

*Tillandsia usneoides*

Spanish moss grows on other plants, but it is not a parasite. It actually absorbs moisture and nutrients from air, rain, and decomposing organic matter. Plants that use other plants for support without feeding on them are called **epiphytes**. Most species in the pineapple family, of which Spanish moss is a member, are epiphytic.

Spanish moss produces slender, branching, leafy stems that may reach 20' in length. They are covered with small, white hairs that give the plant a ghostly appearance. This plant is most often found growing on the branches of live oak and bald cypress trees. Spanish moss has been processed commercially for packing material and for stuffing upholstery.



The Seminoles steamed the plant to kill tiny insects living in it, then wove its fiber into rope, and made clothing, bedding and bandages, and even baby diapers from the long, soft stems.

**SCIENTIFIC NAME:** *Tillandsia usneoides*

**PRONOUNCIATION/ MEANING:** **ti-LAND-zee-a:** named for Elias Tillands, a Finnish botanist of the late 17<sup>th</sup> century;  
**uhs-nee-oy-deez:** resembling lichens of the genus Usnea

**FAMILY:** Bromeliaceae (Pineapple Family)

**HABIT OF GROWTH:** herbaceous, epiphytic, hanging

**HOW TO IDENTIFY:** evergreen, long, pendulous, grayish-green, stems; tiny, pale green or blue, fragrant flowers are borne in leaf axils

**HABITAT:** found throughout Florida, mainly on oak and cypress trees

## SWAMP RED BAY

*Persea palustris*

The Swamp Red Bay is a large evergreen tree commonly found in swamps and moist areas. It is easily identified by its long, thin, pointed leaves that smell very spicy when crushed. This tree is related to the Mediterranean Bay Tree which is the source of the herb bay leaf that is often used to flavor spaghetti sauce and other dishes.

Native Americans and early settlers in Florida also used the leaves of the Red Bay as an herb to season their food.



<b>SCIENTIFIC NAME:</b>	<i>Persea palustris</i>
<b>PRONOUNCIATION/ MEANING:</b>	<b>PAIR-see-ah:</b> Greek word for this genus <b>pal-LUS-tris:</b> marsh-loving
<b>FAMILY:</b>	Lauraceae (Laurel Family)
<b>HEIGHT:</b>	50'
<b>HABIT OF GROWTH:</b>	large, upright tree
<b>HOW TO IDENTIFY:</b>	thin gray twigs, with thin, pointed, evergreen leaves; tiny greenish-yellow flowers followed by small 1/2" black fruit
<b>HABITAT:</b>	wet areas throughout the state

## WHITE INDIGO BERRY

*Randia aculeata*

White indigo berry is a shrub or small, evergreen tree with dark, shiny leaves and small, white flowers. This plant is named for its fruit which has a white skin and dark blue pulp. The fruit is edible, but it will turn your tongue dark blue!

Native Americans used the juice from the berries to make blue body paint and dye for pottery and clothing. The strong, flexible wood of White Indigo Berry was used to make fishing poles and bows for hunting.

**SCIENTIFIC NAME:**

*Randia aculeata*

**PRONOUNCIATION/**

**RAN-dee-ya:** honors Isaac Rand, English botanist

**MEANING:**

**ah-cule-ee-AH-ta:** with spines or prickles

**FAMILY:**

Rubiaceae (Coffee Family)

**HEIGHT:**

10 - 20'

**HABIT OF GROWTH:**

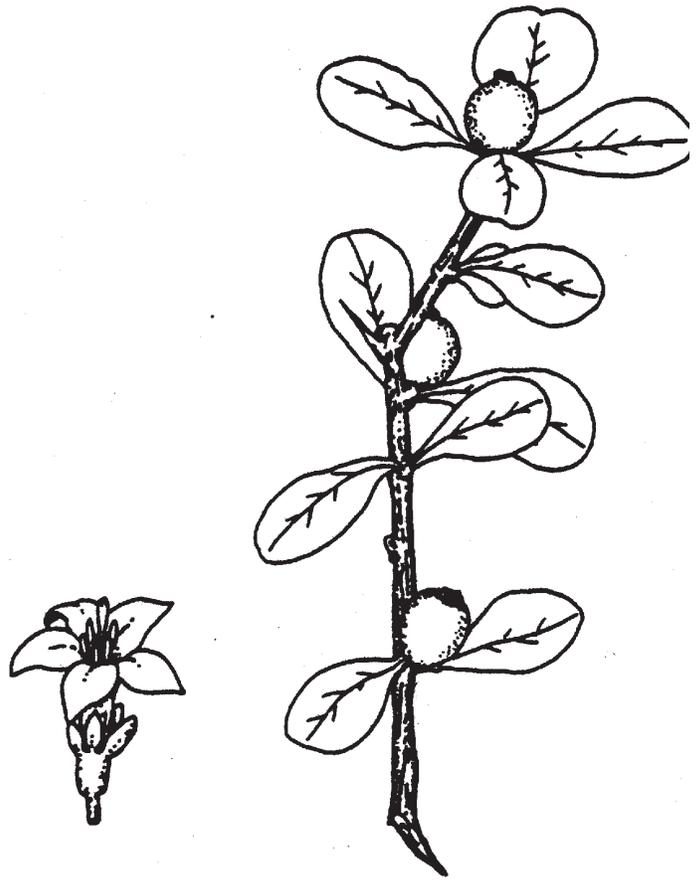
shrub or small, upright tree with opposite branches

**HOW TO IDENTIFY:**

oval, shiny, dark, evergreen leaves; opposite branches tipped with short spines; small, white flowers followed by 1/2", white berries with dark blue pulp

**HABITAT:**

coastal hammocks and shell ridges in southern Florida



## WILD COFFEE

*Psychotria nervosa*

Wild coffee is a shrub that grows in the shady hammocks.

It is not the coffee used as a drink; it gets its name from the small red oval fruit that look like a coffee beans. The leaves are shiny and dark green and white flowers appear in the spring and summer.

The Florida Natives used the leaves of this shrub as medicine to treat colds, asthma, respiratory infections and stomachaches.



**SCIENTIFIC NAME:**

*Psychotria nervosa*

**PRONOUNCIATION/**

**sye-koe-TREE-yuh:**

(Greek) psyche, soul or life

**MEANING:**

**ner-VOE-suh:** affecting the nervous system

**FAMILY:**

Rubiaceae (Coffee Family)

**HEIGHT:**

4 to 10 feet

**HABIT OF GROWTH:**

shrub

**HOW TO IDENTIFY:**

upright rounded shrub with dark green shiny leaves that look puckered and have veins. White flowers appear in spring and summer, followed by small red fruit

**HABITAT:**

hammocks, shade, part-shade

## YAUPON HOLLY

*Ilex vomitoria*

The wood of Yaupon (YOW-pon) was used by the Miccosukee-Seminoles to make arrows and ramrods. The bark made medicine to cure “dance sickness”, which included nightmares, shaking and talking while asleep. As with Dahoon holly, the leaves of yaupon were brewed into a tea. However Yaupon tea causes vomiting if drunk in large quantities, it was used for cleansing rituals and criminal trials!



**SCIENTIFIC NAME:**

*Ilex vomitoria*

**PRONOUNCIATION/  
MEANING:**

**EYE-lecks:** ancient Latin name  
**vom-i-TORE-ee-a:** (Latin)  
because the tea causes vomiting

**FAMILY:**

Aquifoliaceae (Holly Family)

**HEIGHT:**

25'

**HABIT OF GROWTH:**

upright, twiggy, shrub or tree; spreads by suckers to form large colonies

**HOW TO IDENTIFY:**

gray-green twigs bear small, shiny, oval, evergreen leaves; flowers are tiny and light green; clusters of small, bright red berries appear in winter

**HABITAT:**

hammocks and stream banks in northern and central Florida

**STUDENT ACTIVITIES**  
*GRADES K-2*

**GREEN PAGE**

## Making Pottery

### **Materials:**

Modeling clay (natural, self-hardening clay is best)

Tempera paint, brushes

Paper

Pencils and markers

### **Preparation:**

Divide clay so that you have one fist-sized ball for each student. Keep the balls of clay moist in a closed plastic bag or container.

Print examples of Native American symbols (see post visit activity for ideas or go to [www.kivatrading.com/symbol1.htm](http://www.kivatrading.com/symbol1.htm))

### **Procedure:**

Show students some examples of Native American symbols and discuss the uses for symbols and why they appear on pottery, clothing, instruments, tools, etc. (The Native Floridians did not have a written language or alphabet- they used symbols to tell important events- successful hunt, hurricane, war).

Explain to students that they are going to create a clay pot and decorate it with symbols. Ask students to choose several symbols (either from samples or perhaps they could create some of their own) they would like to represent their school, classroom, family or something they identify with. Discuss why they chose those particular symbols.

Demonstrate how to create a coil or pinch pot (see next page)...both are basic traditional Native American pot-making techniques. The coil pot is somewhat more difficult to make for younger hands.

## Pinch Pot

- ✓ Roll clay around in hand to create a ball
- ✓ Push thumb half way into ball of clay
- ✓ Keeping thumb in clay, use forefingers to pinch the outside of clay, working all the way around the clay until it starts to become a bowl.
- ✓ Continue pinching the bowl into desired size
- ✓ Let dry overnight

## Coil Pot

- ✓ Break clay into three or four smaller pieces
- ✓ Roll out each piece into a long, thin “snake” cylinder
- ✓ Use first “snake” cylinder as the bottom; coil it to create circular base
- ✓ ✓ Pinch coils together to hold pot together

When pot bottom is desired size, layer coils vertically to form sides to desired height

- ✓ Let dry overnight
- ✓ Students can practice drawing symbols with pencils on paper to help decide sequence of design
- ✓ Paint symbols on dry pots
- ✓ Share everyone's work; ask students to explain why they chose particular symbols

# Observe a Tree



## Topic

Observe a tree

## Introductory Statement

The students will become acquainted with a tree.

## Math

Measuring length

## Science

Life science  
trees



## Math/Science Process Skills

Observing  
Collecting and recording data

## Materials

For each student:

a tree on the school ground  
centimeter tape

## Key Question

How would you describe a tree?

## Background Information

Trees are useful to us in many ways. The fruit of trees is used for food. The wood can be used for lumber, furniture, building materials, and for fuel. Trees are also important to humans for beauty, shade, and enjoyment. Trees are also home to many birds, insects, and animals.

Through this lesson, the students will become more aware of trees and the changes that occur through the year. They should also begin to realize that there are many different kinds of trees that are used by man.

## Management

Beforehand, if possible, identify the trees on the playground by type.

## Procedure

1. Brainstorm with the students all the ways that we use trees. Have the students record all their answers on the recording sheet *How do we use trees?*
2. Take the students out to find all the trees that are growing on the playground. If you can, identify the trees by name for the students.
3. Suggest to the students that they pick one tree to observe. They should observe their tree from a distance and describe its general shape and size. Then they should move closer and feel the bark of the tree, the leaves, and branches. Look for other features of the tree. Record obser-

vations about their tree on *Observe a Tree* recording sheet.

4. After the students have observed their tree they should write a descriptive paragraph using picture words that will help others to "see" their tree.
5. Using the recording sheet *Measure a Tree*, have the students measure their tree and its shadow with their feet and the span of their hands and then a measuring tape. Encourage the students to measure the height of their tree the way the Indian tribes did (as shown on the sheet *Measure a Tree*). They can also measure the height of the tree by comparing the length of the shadows of a three-foot stick and the tree.
6. Suggest to the students that they pick up natural material around their tree (fallen twigs, leaves, bark, seeds, etc.) and use these to make a picture of their tree. Use the recording sheet *Tree Portrait*.

## Discussion

1. Explain why you chose the tree that you did.
2. What made the sounds you heard in the tree?
3. Name all the different forms of life that you saw in the tree.

## Extensions

1. Find an especially large tree in the neighborhood. Measure its height and circumference.
2. Discuss the changes made by the tree throughout the year.

## Curriculum Correlations

### Language Arts:

Write a cinquain poem about a tree, include many descriptive words.

tree  
tall, green  
spreading, shading, towering  
cooling, rustling, swaying, sighing  
towering

### Social Studies:

Research famous trees noted for their height, size, age, etc.



My tree is a friend.

## How do we use trees?

Think! What are all the ways that we use trees? Make a list.



We use trees for:

- |          |           |           |
|----------|-----------|-----------|
| 1. _____ | 10. _____ | 24. _____ |
| 2. _____ | 11. _____ | 25. _____ |
| 3. _____ | 12. _____ | 26. _____ |
| 4. _____ | 13. _____ | 27. _____ |
| 5. _____ | 14. _____ | 28. _____ |
| 6. _____ | 15. _____ | 29. _____ |
| 7. _____ | 16. _____ | 30. _____ |
| 8. _____ | 17. _____ | 31. _____ |
| 9. _____ | 18. _____ | 32. _____ |
|          | 19. _____ | 33. _____ |
|          | 20. _____ | 34. _____ |
|          | 21. _____ | 35. _____ |
|          | 22. _____ | 36. _____ |
|          | 23. _____ | 37. _____ |



If you can think of any more, write them on the back!

**STUDENT ACTIVITIES**  
*GRADES 3-8*

**GREEN PAGE**

## Seminole Recipes

Students are often curious about the foods the Native Americans ate- not only *what* they ate, but *how it tasted*. At Pan's Garden, unfortunately, we cannot allow children to sample food from any plant because many of the plants are now threatened or endangered species; due to possible food allergies and in an attempt to conserve food for the native animal population that resides in the Garden.

Coontie, seagrapes, acorns, pond apples and beautyberries were popular foods for the Native Floridians, but not usually eaten today. Pumpkin, corn and berries were also favorite foods of the Natives and are still readily used in our modern diet. Listed below are some simple recipes using readily available foods to help satisfy that curiosity.

### Pumpkin Soup

2 cups chicken stock  
½ green pepper, seeded and divided  
1 large tomato  
1 green onion  
1 sprig parsley  
¼ teaspoon thyme  
1 pound canned pumpkin or 2 cups cubed cooked pumpkin  
1 tablespoon flour  
2 tablespoons butter  
1 cup milk  
½ teaspoon nutmeg  
1 teaspoon sugar  
½ teaspoon salt

Place 1 cup chicken stock, green pepper, tomato, onion, parsley and thyme in blender; cover and blend on medium speed until vegetables are coarsely chopped. Pour into saucepan; simmer 5 minutes.

Return mixture to blender and add pumpkin and flour. Cover and use high speed until mixture is very smooth. Pour mixture into saucepan. Stir in remaining 1 cup chicken broth and all remaining ingredients. Heat to a boil; stirring frequently. Cook 3 minutes longer. Serve hot. Serves 4-6

## Swamp Cabbage Salad

1 core (1 heart) of swamp cabbage or 3 or 4 hearts of palm (specifically sabal palm-can be found in cans or jars labeled "Hearts of Palm")

Ice water to cover

Strip outer layers of cabbage, exposing its ivory layered heart. Slice thinly and soak in ice water for 1 ½ hours.

Drain well and blot on paper towels. Place into a large salad bowl and toss with mayonnaise dressing.

Mayonnaise Dressing

1 ½ cups prepared mayonnaise

2-3 tablespoons apple cider vinegar

Salt and pepper to taste

3 scallions, minced

1 tablespoon parsley, minced

In a small bowl whisk together all ingredients until smooth and toss with hearts of palm.

## Buttermilk Cornbread

1 ½ cups yellow cornmeal

2 teaspoons double acting baking powder

2 eggs

Salt to taste

1 ½ cups buttermilk

4 tablespoons bacon drippings

Preheat oven to 400 degrees. In a bowl, blend together cornmeal, baking powder, eggs, salt and 1 ¼ cups buttermilk. Beat with wooden spoon. Using a 10" cast iron skillet, heat bacon drippings until it starts to smoke. Pour most of the hot grease into cornmeal mixture and add the remaining ¼ cup buttermilk. Mix well and pour back into a **very hot** skillet (to make a crisp crust on the bread).

Bake in the 400 degree oven about 15 minutes until well browned around the edges. Place skillet about 6 inches from broiler and brown top for 3-4 minutes or until light brown- do not let it burn. Turn out onto a plate, upside down and serve immediately. Serves about 8.

## Timucua Words

Here are some words from the Timucuan language. See if you can pronounce them, then try to write a short story or a few sentences using these words.

### Numbers

One- yaha (YA-ha)  
Two- qibe (KEE-bee)  
Three- hapu (HA-poo)  
Four- chequeta (che-KET-tah)  
Five- marua (mah-RU-ah)  
Six- mareca (mah-RECK-kah)  
Seven- piqicha (peh-KEE-cha)  
Eight- piqinghu (peh-KING-gwah)  
Nine- peqecheta  
(peh-KEECH-eh-ket-tah)  
Ten- tuma (TOO-mah)

### Animals

Alligator- itori (eh-TOR-ee)  
Bear- ara (AIR-uh)  
Deer- honoso (hon-OH-so)  
Dog- efa (EH-fah)  
Panther- yaraha (ya-RAH-ha)  
Rabbit- quelo (KWEY-lo)  
Snake- iyola (eh-YO-lah)  
Wolf- banehe (baah-NAY-he)

### Tools

Ax- cocho (KO-cho)  
Fish hook- yabi (YAH-bee)  
Basket- hachi (HA-chee)  
Cup- ucu (OOH-koo)  
Rope- amala (AH-mal-lah)  
Arrow- atulu (ah-TOO-loo)  
Bow- colo (KO-lo)  
Knife- picho (PEE-cho)  
Boat (canoe)- tico (TEE-ko)

### Foods

Acorn- tucu (TOO-koo)  
Tree bark- anapie (AN-uh-pie-ee)  
Beans- saliqi (sa-LEE-kee)  
Corn- hola (OH-la)  
Fish cuyu (KOO-yoo)  
Grape- bihi (BEE-hee)  
Meat- soba (SO-bah)  
Melon- meloni

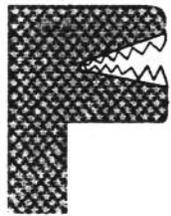
## **A WALK IN HARMONY: A TIMUCUAN LEGEND**



hen Creator, Yayjaba', created the world, he created first the Spirit of Water and the Spirit of Wind. Then Yayjaba' created the large pond and in the middle of the pond he placed the land. Into the waters of the pond he placed the swimmers—those that breathed above the waters and those that breathed below the waves. Then Yayjaba' saw that the land was beginning to slide down into the water, so he created the swimmers that would live on the bottom of the waters—there they would always live, feeding on the bottom and helping to hold the land steady, to keep it from sliding further into the waves.



hen Yayjaba' opened the Great Cave and brought forth all of the two-legged, the four-legged, the winged, the crawlers, and the oriri' (insects). Each moved out onto the land and found a place for their home. Wind and Water roamed over the land, the Wind bringing the cool breeze in the heat of day, and the Water bringing refreshing rain to the face of the land. But as they roamed, Yayjaba' saw that more of the land was being lost into the water—the swimmers living on the bottom were holding as tight as they could, but they could not stop the land from falling into the waters. It was then that Yayjaba' created the one-legged ones. He said to them "You are my silent ones. You have been given no voice with which to speak and you have been given but one leg, so that you may stand but not move about. But, you will do wondrous things—you will be the protectors of the land. Where I place you, you are to grab onto the land and hold it still. When Wind wanders the land, you must hold the land steady so that his breath does not blow the land into the waters. All of you, from the mightiest oak to the smallest flower, to the single blade of grass—you are to hold tight to the land".



For doing this, the one-legged ones are to be given special gifts- you will amaze all others with your ability to live anywhere. You will find homes in the crevices of rocks, upon the face of mountains, in the burning sands of the deserts, in fertile land, and on arid land. You will live in fresh water and in water having salt, some of you will have stinging needles and some will provide food for many. Many others will seek your shade, and others will find homes within your arms. Some of you will live but one cycle, but will have many children, thus you will continue on forever. Some of you will see more cycles than any other- you will become the true 'ancient ones' of this land that you so faithfully held, you will become a part of the land and your children will take hold wherever you once stood. They will draw strength from you and this will continue forever."



All that have come out of the Cave and onto the land must show you great respect- they will know that you are the protectors of the land. When they lose that respect and cast you down before your time, then the breath of the Wind will blow that land and dust will fill the air and those lacking respect will suffer greatly. Water will roam the land and to those lacking respect, he will give too much rain and the land will be washed away. And to others that are lacking respect, he will withhold his rain, giving them none until they dry up and are blown away by the breath of the Wind. To any that bring you destruction, they bring themselves to destruction. You are my silent ones. You have been given no voice with which to speak and you have been given but one leg- so that you may stand but not move about. But it is you that are the protectors of my land.

## Timucuan Beliefs that Teach Common Sense

Write these Native Floridian sayings on the board and ask students to give an oral or written explanation. Discuss how these sayings might teach youngsters important lessons.

***“Crossing with the canoe some sandbar or obstacles, and there being a choppy area, have you whistled to it, believing that you would not turn over?”***

Canoeing in a storm or in choppy water is a bit scary. Whistling probably made the canoeist feel less stress or more relaxed so they could handle the canoe better. Today, we have a similar saying; “whistling in the dark”. Trying to calm oneself down in a scary situation made good sense for the Timucuas and it makes good sense today.

***“When collecting acorns or other fruits, did you consider it a sin to eat the first fruits that were cut?”***

With as many as 200 people living in a village, the land nearby could be aggressively harvested. The people could easily collect and eat every acorn, blueberry, plum and grape in the area, leaving nothing for the animals to eat and leaving no seeds to produce more plants the following year. By throwing the first fruits back into the woods the Timucua reseeded the plants for the future, which insured these plant species never died out.

***“The broth of the deer or the wild chicken, have you said not to spill it, otherwise the snare will not catch another?”***

Broth, the water in which meat and vegetables are cooked, is full of vitamins- it is very healthy food and should not be wasted. We have a similar saying today, “Waste not; want not.” If the Timucua wasted food and had to hunt more animals to feed the tribe, there might not be enough left to hunt the following year.

## Is There a (Seminole) Doctor in the House? Worksheet

Native American Medicine Men and Women used plants to make remedies and medicine to cure illnesses and diseases. Use the information about Florida Native plants to match the Medicine plant (or plants- there may be more than one) with the symptoms to cure the illnesses. Not all plants listed are Medicine plants.

Red (Swamp/Florida) Maple  
Leather (Leaf) Fern  
Century Plant  
Pond Apple  
Marlberry  
Gumbo Limbo  
American Beautyberry  
Canna  
Satin Leaf  
Sea Grape  
Silver Buttonwood

Scouring Rush Horsetail  
Firebush  
Dune (Beach ) Sunflower  
Dahoon Holly  
Yaupon Holly  
Southern Blue Flag Iris  
Southern Magnolia  
Simpson's Stopper  
Prickly Pear Cactus  
Peperomia  
Swamp Red Bay

Pickeral Weed  
Slash Pine  
Wild Coffee  
Live Oak  
White Indigo Berry  
Bald Cypress  
Sabal Palm  
Saw Palmetto  
Spanish Moss  
Coontie

Illness	Symptoms	Medicine Plant(s)
Ballgame Sickness	sores, back, arm or leg pain, muscle pain	
Bear Sickness	fever, headache, thirst	
Bird Sickness	diarrhea, vomiting, appetite loss	
Cat Sickness	nausea	
Cow Sickness	chest pain, digestive pain	
Deer Sickness	numb/painful arms, legs, joints	
Grass Sickness	fever, headaches, weight loss	
Ghost Sickness	grief, appetite loss, vomiting	
Opossum Sickness	appetite loss, drooling	
Rainbow Sickness	fever, stiff neck, backache	
Snake Sickness	itchy, dry skin, rash	
Sun Sickness	eye pain, headache, fever, diarrhea	

Illness	Symptoms	Medicine Plant(s)
Thunder Sickness	fever, dizziness, headache, diarrhea	
Wolf Ghost Sickness	digestive trouble, stomach pain, vomiting	
Posion Ivy, skin rashes	itching, bumps, rash, redness	
Arthritis	joint swelling, stiffness and pain	
Insect bites	itchy, red bumps, pain, swelling	
Bleeding	unstoppable heavy bleeding	
Cuts, bruises, sores, burns	same as illness	
Warts	same as illness	
Tiredness	sleepy, tired, lethargic	
Shock	fast heart beat, heavy breathing, fainting	
Coughs, colds, asthma	cough, stuffy nose, sore throat, trouble breathing	

### Is There a (Seminole) Doctor in the House? Answer Sheet

Native American Medicine Men and Women used plants to make remedies and medicine to cure illnesses and diseases. Use the information about Florida Native plants to match the Medicine plant (or plants- there may be more than one) with the symptoms to cure the illnesses. Not all plants listed are Medicine plants.

Red (Swamp/Florida) Maple  
Leather (Leaf) Fern  
Century Plant  
Pond Apple  
Marlberry  
Gumbo Limbo  
American Beautyberry  
Canna  
Satin Leaf  
Sea Grape  
Silver Buttonwood

Scouring Rush Horsetail  
Firebush  
Dune (Beach ) Sunflower  
Dahoon Holly  
Yaupon Holly  
Southern Blue Flag Iris  
Southern Magnolia  
Simpson's Stopper  
Prickly Pear Cactus  
Peperomia  
Swamp Red Bay

Pickeral Weed  
Slash Pine  
Wild Coffee  
Live Oak  
White Indigo Berry  
Bald Cypress  
Sabal Palm  
Saw Palmetto  
Spanish Moss  
Coontie

Illness	Symptoms	Medicine Plant(s)
Ballgame Sickness	sores, back, arm or leg pain, muscle pain	Red (Swamp, Florida) Maple
Bear Sickness	fever, headache, thirst	Leather (Leaf) Fern
Bird Sickness	diarrhea, vomiting, appetite loss	Canna, Silver Buttonwood, Simpson's Stopper
Cat Sickness	nausea	Canna
Cow Sickness	chest pain, digestive pain	Scouring Rush Horsetail, Dune (Beach) Sunflower, Southern Blue Flag Iris
Deer Sickness	numb/painful arms, legs, joints	Red (Swamp, Florida) Maple, Firebush
Grass Sickness	fever, headaches, weight loss	Leather (leaf) Fern
Ghost Sickness	grief, appetite loss, vomiting	Canna
Opossum Sickness	appetite loss, drooling	Canna
Rainbow Sickness	fever, stiff neck, backache	Red (Swamp, Florida) Maple, Leather (Leaf) Fern,
Snake Sickness	itchy, dry skin, rash	Silver Buttonwood, Firebush
Sun Sickness	eye pain, headache, fever, diarrhea	Leather (Leaf) Fern, Simpson's Stopper

# SEMINOLE DOCTOR ANSWERS

<b>Illness</b>	<b>Symptoms</b>	<b>Medicine Plant(s)</b>
Thunder Sickness	fever, dizziness, headache, diarrhea	Leather (Leaf) Fern, Silver Buttonwood
Wolf Ghost Sickness	digestive trouble, stomach pain, vomiting	Southern Blue Flag Iris, Canna, Scouring Rush Horsetail, Wild Coffee
Poison Ivy, skin rashes	itching, bumps, rash, redness	Silver Buttonwood, Firebush
Arthritis	joint swelling, stiffness and pain	Firebush
Insect bites	itchy, red bumps, pain, swelling	Dune (Beach) Sunflower
Bleeding	unstoppable heavy bleeding	Scouring Rush Horsetail
Cuts, bruises, sores, burns	same as illness	Silver Buttonwood, Scouring Rush Horsetail, Firebush, Dune (Beach) Sunflower, Southern Blue Flag Iris
Warts	same as illness	Dune (Beach) Sunflower
Tiredness	sleepy, tired, lethargic	Dune (Beach) Sunflower
Shock	fast heart beat, heavy breathing, fainting	Southern Blue Flag Iris
Coughs, colds, asthma	cough, stuffy nose, sore throat, trouble breathing	Peperomia, Wild Coffee,

## **Changes in Latitudes, Changes in Attitudes...**

(The first two activities are appropriate for grades 4-8;  
the third activity is intended for grades 3-5)

*The following two lessons are about the “foodways” of the Spanish settlers and the Apalachee Natives. Students will explore and consider cultural and environmental factors that help determine what foods people in an area eat.*

### **Teacher Background Information:**

Because “food is the staff of life” every culture has specific attitudes about what people eat based on what is available and what is considered appropriate. Within each culture, people express individual food preferences or avoidances based on personal tastes, religious beliefs, medical conditions and a host of other factors. Moreover, in modern times, many people are very aware of health considerations pertaining to food, and many actively seek to enjoy the cuisines of different ethnic groups.

Before they began to coexist at Mission San Luis, Apalachee Natives and Spaniards had very different eating habits. The most important foods to the Apalachee diet were corn, beans squash (the “three sisters”) which they supplemented with sunflower seeds, wild grapes, acorns, hickory nuts, blackberries and other wild plants. In addition to fishing and gathering shellfish, the Apalachee hunted deer, bear, panther, rabbit, squirrel, opossum, turtle and wild turkey.

The common Mediterranean staples of wheat, olive oil, and wine were central to the traditional Spanish diet. Because meat was expensive in most areas, it was consumed primarily by the upper classes. People living near rivers and the sea ate fish frequently and almost all Spaniards ate fish on religious holidays.

When Spaniards and Apalachee Natives settled at Mission San Luis, both groups learned new foodways. The Apalachee were exposed to domesticated animals such as cows, pigs and chickens, as well as new vegetables and plant crops. Spaniards began to consume such native foods as deer, unfamiliar species of fish, turtles, corn, wild grapes and maypop. The Spanish introduced peaches, wheat, and peas as well as domesticated animals for meat purposes. They imported wine, olives, olive oil and other staples familiar to them that could not be produced locally.

## **Objectives:**

- students will understand that culture and environment contribute to food preferences
- students will understand that cross-cultural contact can change the foodways of people

## **Procedure:**

Read the following aloud to the entire class or make copies for each student to read individually. Conduct a class discussion of the questions at the conclusion of the article or ask students to write their responses.

## **Class Discussion:**

Initiate a discussion about foods students like and are used to eating; make a list on the board. Ask them to identify foods that derive from other cultures (e.g., tacos, spaghetti, stir-fried vegetables). Ask them about opportunities they have had to eat foods from different cultures (e.g., at home, at restaurants, ethnic celebrations, or the home of a friend).

Change the discussion to the reasons why people avoid certain foods that are common in their own culture, community, or family. After the expected “yuck” answers (i.e. personal preference), prompt further exploration by suggesting that many factors determine food avoidances- for example, vegetarianism, the desire to lose weight, medical conditions, religion and seasonal customs. Ask how eating habits in such situations might vary from their own and invite students to share personal experiences.

## **Class Discussion:**

Focus this part of the lesson on the ways which modern technology and economies have revolutionized diets compared to those of grandparents and great-grandparents decades ago. Ask students to comment on the ways refrigeration, grocery stores, commercial shipping and agricultural technology have changed the foods we eat.

Explain that the ways foods are prepared and served also reveal details about a culture. For example, 500 years ago many European cultures began to use individual plates, bowls, drinking vessels and eating utensils. Today, in many cultures people still prefer to eat from large communal vessels and use hands instead of utensils. Ask students to discuss what they know about how different cultures incorporate food into social activities, how concerns about sanitation have changed the way people eat and what are their ideas about how other cultures can be influenced by what people eat and how they prepare and serve their food.



## Changes in Latitudes, Changes in (Food) Attitudes...

St. Augustine, the capital of Spanish Florida, was located on the east coast of Florida, about 200 miles from Mission San Luis. Although the area around the community had plenty of seafood, turtles and other sources of food, Spaniards living there often complained of poor rations. It was said that "... when there was nothing to eat they ate herbs, fish and other scum and vermin."

1. Do you believe the Spaniards were really starving?
  
2. How was it possible that Natives had lived there for thousands of years before the Spanish arrived, and they had plenty to eat?
  
3. How important was cultural conditioning in causing the Spanish to believe there was nothing to eat in St. Augustine?

## Changes in Latitudes, Changes in (Food) Attitudes...

Before they lived together at Mission San Luis, the Apalachee Natives and the Spanish had very different ways of selecting, acquiring, cooking and eating food called foodways. When they settled at Mission San Luis, both groups learned foodways from each other.

The most important foods for the Apalachee were the crops they grew in their fields. They raised corn, beans and squash and harvested from the wild sunflower seeds, wild grapes, acorns, hickory nuts and blackberries. They also hunted wild animals, fished the rivers and gathered shellfish and turtles.

The Spanish preferred the foods of their homeland. The most important foods they brought from Spain were wheat, rice, olives, olive oil and wine. They also liked to eat meats and fish. The Spanish brought three kinds of animals they used for food-cows, pigs and chickens. They grew peaches, peas and other vegetables. They taught the Apalachee how to grow their native foods from Spain and how to raise farm animals. The Apalachee taught the Spanish which foods could be gathered and hunted in the wild.

1. What is the main subject of this story?
2. Name the most important crops for the Apalachee.
3. What three animals did the Spanish bring with them to Mission San Luis?
4. Did the Spanish grow olives at Mission San Luis?
5. Did the Apalachee like peaches and grow them?
6. Which Spanish foods did the Apalachee grow?
7. What wild foods did the Apalachee gather?
8. What is one way the two groups shared with each other?

## What Do They Mean?

Write these quotes on the board and have students either write their thoughts on the meanings, or have students brainstorm orally and discuss their ideas with the entire class.

*“We don’t inherit the land  
from our ancestors,  
we borrow it from our children.”*

Pennsylvania Dutch saying

*“The frog does not  
drink up the pond  
in which he lives.”*

Buddhist Proverb

*“Do you think you can take over  
the universe and improve it?  
I do not believe it can be done . . .  
If you try to change it,  
you will ruin it.”*

Lao Tsu, Chinese Philosopher

## Things to Do

1. Hold a spelling bee using words from the Glossary. For extra points, ask students to define the words.
2. Take an inventory of the plants growing on your school grounds. Identify trees, shrubs, herbs, climbers and epiphytes. Identify native versus exotic plants.
3. Review the different areas in Pan’s Garden with students - the wetlands and uplands areas. Identify environmental characteristics common to these areas and their relationship to the plants growing there (i.e., the wetland area is fresh water, not salt water). Discuss how environmental conditions affect species survival.
4. Follow-up your visit to Pan’s Garden with a visit to a nature reserve. Look for plants and habitat similar to that found in Pan’s Garden. Discuss with your students the difference between a **natural** versus a **created** habitat.
5. Create a native plant garden at your school - after their visit to Pan’s Garden, have each class plant a native tree or shrub.



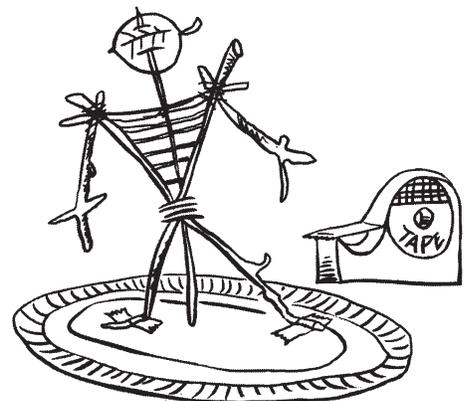
You and your classmates have just been stranded on a deserted island. Don't panic! There is plenty of food and water. There is even a shack containing tape, glue, nails, pins, thumbtacks and paint.

You just have one big problem. You don't have any houses, furniture, clothing, containers for water or any recreational equipment. The island has all kinds of plants. To survive you have to make all these needed objects from plants. Remember that you have all the tape and materials listed above that you need.

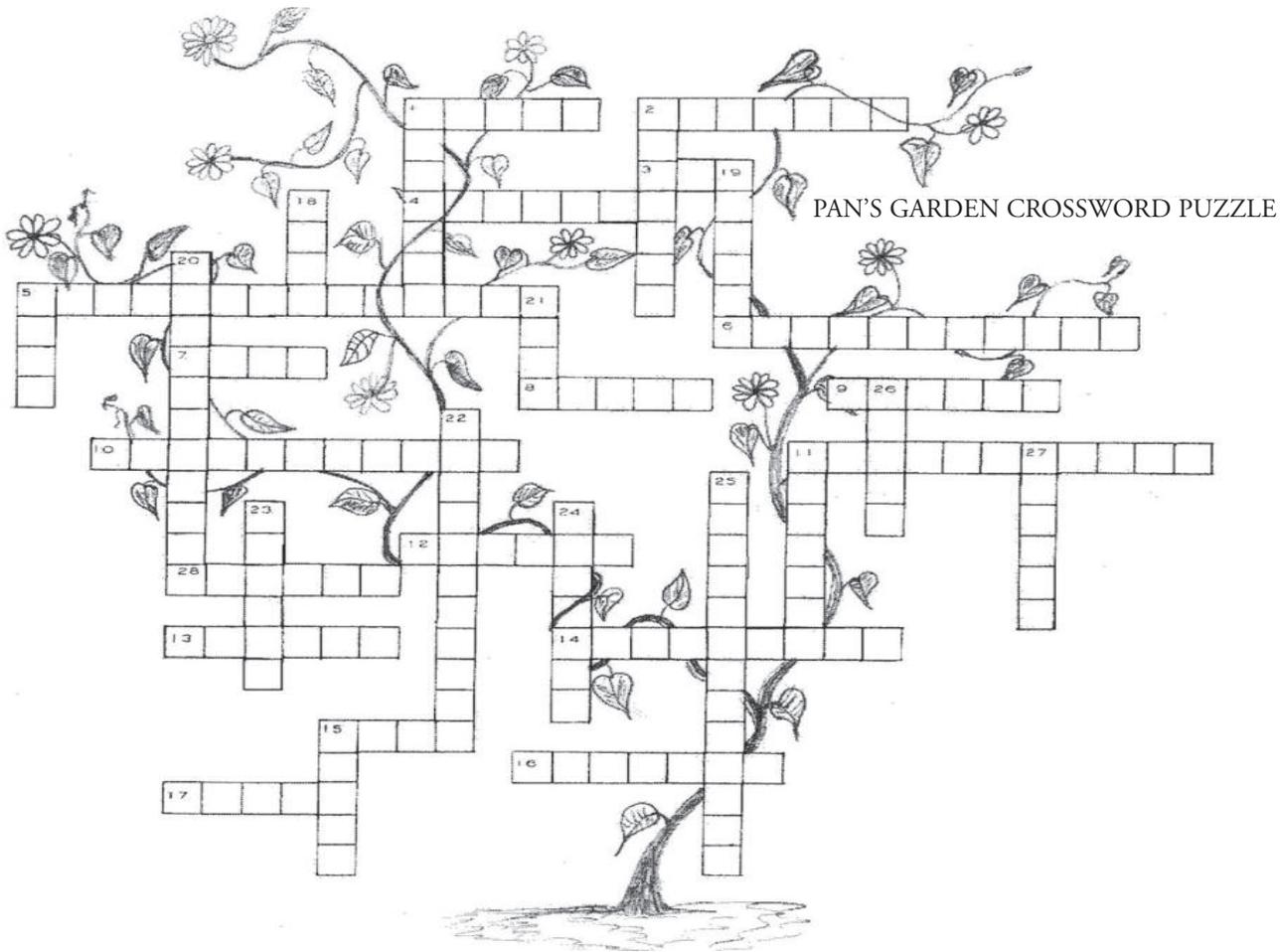
## Plant Survival Contest Rules

1. Form teams to provide your needs from plant materials only.
2. You may use twigs, leaves, roots, flowers, nuts or seeds.
3. Build all plant products on a **miniature** scale.
4. You will have one week to assemble three plant products.
5. Build your plant products in any category below:

houses	containers (to store food or water)
furniture	recreational equipment-playground or deck of cards
clothing	
artistic objects to improve your barren existence	transportation-sleds, wagons or/'?"
6. Your teacher or parent is the final judge of whether contest entries are appropriate or safe.  
Be proud of your products. Make them strong and beautiful.



# CROSSWORD PUZZLE



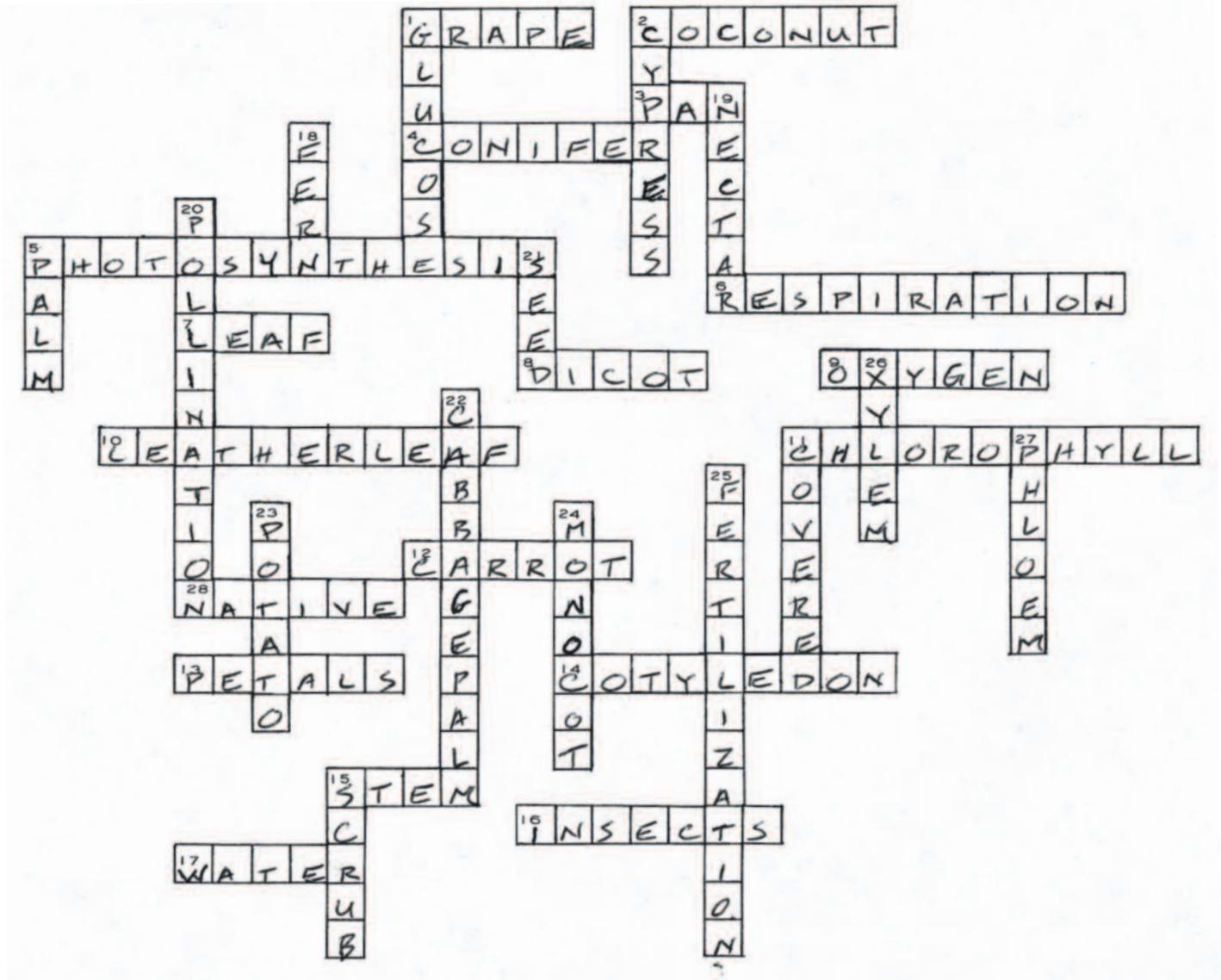
## ACROSS

1. Berries used to make jam, jellies and wine
2. Largest seed of any plant on earth, and the World's chief source of vegetable oil
3. Greek god of fields, forests and streams
4. Type of cone bearing plant
5. Process by which plants make their own food
6. Process by which plants use oxygen to release energy from food
7. Plant structure well adapted to making food
8. A plant that has two seed leaves
9. Gas released while a plant makes food
10. Largest fern in North America
11. Pigment that makes plants green
12. Example of a tap root
13. Colorful flower parts which attract insects
14. Scientific name for a "seed leaf"
15. Leaves are often attached to one of these
16. Without their assistance, many plants would not produce seeds
17. Some plants grow in it, some grow away from it, but all need it
28. Plants in Pan's Garden grow well here because they are \_\_\_\_\_ to Florida

## DOWN

1. All plants manufacture this form of sugar
2. Lumber from this tree is well suited for construction near water
5. Every hand has one
11. Some seeds are naked, and others are \_\_\_\_\_
15. Oldest ecosystem in the southeast - most of it has been destroyed
18. Primitive spore bearing plant
19. Attracts insects
20. Insects, wind, water, birds and bats may all have a role in it
21. Embryonic plant
22. Florida's state tree
23. Modified stem people eat as a source of starch
24. Has one seed leaf
25. Union of male and female reproductive cells
26. Conducts water in vascular plants
27. Transports food, water and minerals throughout a plant

# CROSSWORD PUZZLE



## Pan's Garden Word Scramble

**DIRECTIONS:**

1. Unscramble the letters to form words you learned while discussing your upcoming visit to Pan's Garden.
2. Arrange the letters in each box to spell an important 12-letter word.

T E R E

— — — —

D A R E N G

— — — — —

B E H R

— — — —

T W E N D A L

— — — — — — — —

M C B R I L E

— — — — — — — —

V I N A T E

— — — — — — — —

B R U S H

— — — — —

D R I F O L A

— — — — — — — —

H E Y P P I E T

— — — — — — — —

E T O X I C

— — — — — — — —

D U N L A P

— — — — — — — —

M I S E L O N E

— — — — — — — —

**Mystery Word**

— — — — — — — — — — — — — — — — — —

## Answers to Pan's Garden Word Scramble

T E R E

D A R E N G

T R E E

G A R D E N

B E H R

T W E N D A L

H E R B

W E T L A N D

M C B R I L E

V I N A T E

C L I M B E R

N A T I V E

B R U S H

D R I F O L A

S H R U B

F L O R I D A

H E Y P P I E T

E T O X I C

E P I P H Y T E

E X O T I C

D U N L A P

M I S E L O N E

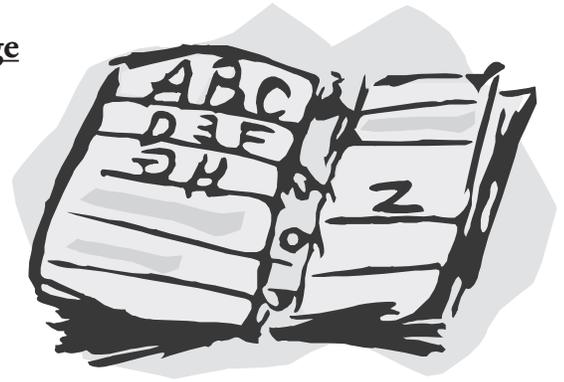
U P L A N D

S E M I N O L E

LETTERS FOR MYSTERY WORD: E, N, R, A, C, V, S, O, I, O, N, E

Mystery Word: CONSERVATION

## Check Your Knowledge



Why are plants important?

What is botany? Ethnobotany?

What is the purpose of a botanical garden?

Why are plants given Latin names?

When did humans first arrive in Florida? When did Europeans first arrive in Florida?

Who were the Seminoles?

How did the Native Americans in Florida discover the uses of the plants?

Why is it important that we learn about native plants and their uses?

What are some of the most important plants used by Native Americans in Florida?

Define habitat. How does habitat affect plants, animals and people?

What is an exotic species? Why must we be careful with exotics?

What is an upland? Name some of the plants that are found there.

What is wetland? Name some of the plants that are found there.

What is extinction? How can we prevent the extinction of species?

You are a Native American living 600 years ago in Florida:

If you wanted to build a house, what plants would you use?

Which plants would provide you with fruit?

How would you make bread?

What plants would you make clothes from?

What plants would you use to build a canoe or a raft?

## The Stick Game

### How to play and score

Play in groups of 2 or 3

Leave some space between players

Take turns

Hold all 3 sticks in one hand

Toss sticks lightly into the air

“Read” sticks as they fall

Use the list below to see how many points are earned

Each player adds and keeps track of their points

Pick up sticks

The next player takes a turn

<u>If Sticks show</u>	<u>Your score is</u>
All plain	4
1 plain, 1 man and 1 snake	0
1 plain and 2 snakes	6
1 man and 2 snakes	6
1 man and 2 plain	6
1 snake and 2 plain	4

Have fun! The first to reach 60 points or more wins!!



**GLOSSARY  
BIBLIOGRAPHY**

**GREEN PAGE**

## Glossary

**abundant** - more than enough; plentiful

**acorn**- a dry fruit that is found on oak trees

**adapt** - to adjust to a new environment

**advisor** - people who help make decisions and give advice to others

**alliance(s)** - joining forces with others of the same understanding

**ancestor** - someone who lived earlier in a family, especially earlier than a grandparent

**archaeologist** – a person who studies objects left behind by people who lived long ago

**artifact** - a human made object such as a weapon or tool from long ago that teaches us about a group of people

**assimilate (d)** - to join into a group or culture

**atlatl** - a spear-throwing stick; a weapon

**atrocities** - cruel acts

**barbacoa** – a rack used for smoking and drying foods, herbs and animal hides

**botany** – the study of plants

**botanist** – a scientist or person who studies plants

**cassina** - the Black Drink made from Yaupon holly leaves

**carbon dioxide** – (CO<sub>2</sub>) a colorless, odorless gas formed and given off by plants and animals in the respiration (breathing) process

**cede (d)** - to give up ownership of

**cell** – a basic unit of life

**census** - an official count of a population in an area

**ceremony** – anything people do to celebrate important happenings in their lives, often with singing, dancing and music

**chickee** – a hut-like home or building built by the Native Floridians

**chiefdoms (chiefdomships)** - an area made up of several or many villages that was ruled or led by one chief

**chlorophyll** – the cells that give a plant its green color and that trap solar energy needed by a plant to make its own food (photosynthesis)

**clan** - a group of people who have common ancestors

**colonize** - to make a colony or settlement

**colony** - an area of land settled or conquered by a distant country and controlled by it

**conflict** - disagreement between people with different ideas or beliefs

**contact** - to meet, come together, communicate

**conquistador** - a Spanish conqueror in the 16<sup>th</sup> century

**contagious** - able to spread diseases by close contact

**convert** - to cause a person or group of people to change their religious beliefs or their ways of life

**coontie** - a Florida plant used by the Natives to make bread

**council** – a group of leaders that helps make decision for the tribe

**cultural colonization** - to make a settlement to change the ways of a group of people

**culture** - the customs or ways of life of a group of people

**descendant** - a person who is descended (passed down by inheritance, related to) from another

**deciduous** – a plant whose leaves fall off seasonally or at certain times in its life cycle

**decimate** - to destroy a large number

**decline (ing)** - decreasing or getting smaller in size

**demise** - death

**devastate (ing) (ation)** - to cause great destruction or harm

**diminish** - to become smaller or less

**documented descendants** - proven information about inheritance or ancestors

**domesticated** - animals kept and used by humans; not wild

**dominate** - to have power, command or influence over

**earspool** - decorative jewelry worn by both males and females made from hardwood and shells and worn by making large holes in the ear lobes

**elaborate** - with many parts or details

**elder(s)** - older person who is respected and experienced

**enslave** - to be made a slave

**epidemic** - an outbreak of a disease that spreads quickly through a community

**epiphyte** – a plant that grows on another plant but does not feed upon it

**ethnobotany** – the study of the interaction or relationship between people and plants

**ethnographers** - people who make records of groups of people

**evacuate (d)** - to send people away

**excavation** - a place or site where a hole is dug, usually to build something

**exile** - to send away from one's country as punishment

**exotic** - a species of plant or animal not living in its native environment

**expedition** - the people or ships that make a journey or voyage for a purpose

**extinct** - no longer existing

**flourish(ed)** - to be successful in (population) growth and development

**fluent (ly)** - able to speak (other languages) well and with understanding

**foodways** – ways of finding, choosing, cooking and eating foods in differing cultures

**forager** - those who search (as for food)

**former** - of an earlier time

**galleon** - large Spanish sailing ships used in the 15<sup>th</sup> -17<sup>th</sup> centuries

**garner (ed)** - to earn or get

**generation** - group of the people who were born at approximately the same time, considered as a group, and especially when considered as having shared interests and attitudes; a single stage in the descending order of a family, a group of people, animals, or plants (three generations-children, parents, grandparents)

**genus** – a group within a family

**glucose** – food for plants made up water and carbon dioxide during the photosynthesis process

**hammock**- a fertile area where hardwood trees and shrubs grow; a wooded or forested area

**harbor (ing)** - to give shelter to; to protect; to keep hidden

**herb** - a plant with leaves or seeds that are used for food or as medicine or for flavoring; a soft-stemmed plant that dies down to the ground after flowering

**hostile (hostility)** - very unfriendly; an enemy

**influence (influential)** - being able to affect someone's beliefs or actions

**inherit**- something that is passed down (as the title of chief) from one generation to the next (grandfather to father to son)

**intent (intentions)** – purpose

**interaction** - to have an effect upon each other (as in cultures interacting)

**introduced** – to bring

**lure** – to attract with promise of gaining something of use

**maize** - corn

**matchcoat** – a type of coat worn by Florida Native people

**midden** – a place where Natives piled wastes such as oyster shells and bones

**migrate** – to leave one place and settle in another

**misdeeds** – a wrong or improper act; a crime

**mission** – church built for the purpose of converting people to the Christian religion

**missionaries** – people sent to spread the Christian faith to members of a community

**Mound Builder** – Native Tribes who made midden mounds

**negotiator** – person who tries to reach an agreement or arrangement between people or groups

**occupation** – taking or holding by force

**official** – legal; properly authorized or recognized

**orator** – a person who is good at making public speeches

**passionate** – showing strong emotion or feelings

**perennial** – a plant that flowers and produces seeds year after year

**pirate** – a person on a ship who unlawfully attacks and robs another ship at sea or makes a raid on shore

**plunder** – to rob; to take or steal goods or money

**pole** – to push along a raft or canoe using a long, slender piece of wood

**precious metals** – gold, silver and platinum

**preserved**- to keep safe; to keep in an unchanged condition

**principal** – first in rank; of great importance, as in chief

**rebellion** – an act of refusal to obey or be controlled by someone else

**refuge**- a shelter from danger or trouble

**remnants** – a small remaining part of a number of people

**reservations** – an area of land set aside on which Native Americans live

**retreat** – to go away when faced with danger

**ritual** – a series of actions or procedure regularly done, as in a religious ceremony

**role** – a person's job or function

**seize** – to take something by force

**shaman** – a tribal priest, person who has contact with the Gods

**shellfish** – oysters, clams and other small, soft sea animals that live in hard shells

**smallpox** – a contagious disease that kills or leaves people with awful scars

**species** – a group of plants or animals that are alike in certain ways; individuals within a genus

**staples** – principal, major or main foods or products

**subdue** – to bring under control

**supplanted**- to drive someone away and take their place

**tanning** – the science of turning rawhide into finished leather

**taxonomy** – the science of classifying things

**thatch (ing)** – the leaves used to make a roof or walls of Native houses

**toll** – the loss or damage caused by a disaster

**traditional** – a custom, belief or method, passed down through time that has been used over a long period of time

**truce** – an agreement to stop fighting

**understory** – a group of small trees, shrubs or plants that grow underneath tall tree in a forest or woods

**upland** – a large area of ground higher than the surrounding land that experiences hot, dry conditions

**verbally** – spoken, not written

**viable** – able to exist, successful

**void** – empty, vacant

**weir** – a fence built in a stream or river to catch fish

**wetland** – areas of land that are low and have a constant collection of water

## Bibliography

[www.ancientnative.org](http://www.ancientnative.org)

[www.accessgenealogy.com](http://www.accessgenealogy.com)

[www.fcit.usf.edu](http://www.fcit.usf.edu)

[www.missionsanluis.org](http://www.missionsanluis.org)

[www.seminoletribe.com](http://www.seminoletribe.com)

[www.pelotes.jea.com](http://www.pelotes.jea.com)

[Wikipedia.org](http://Wikipedia.org)

Ah-Tah-Thi-ki Museum

Florida Heritage Education Program

AIMS Foundation

*Seminole Indian Recipes*, Joyce LaFray Young (Surfside Publishing Inc., March 1987)



# STAFF DEVELOPMENT

**GREEN PAGE**



RE: Staff Development for *Florida's Plants and the Native Americans*

The "*Florida's Plants and the Native Americans*" program in Pan's Garden has been acknowledged by the Palm Beach County School District as a field experience that allows teachers an opportunity to earn in-service points for participation. The Preservation Foundation of Palm Beach strives to provide exemplary programs and is honored to be recognized as a provider of quality staff development in-service credit

To qualify for the in-service points the following are required:

1. **Each teacher** seeking in-service points must fill out staff development sign-in sheets Parts A & B (**one copy per school**) located in the Staff Development section of your teacher manual
2. **Each teacher** shall make a copy of the Staff Development Follow-up Evaluation and the Teacher Post Assessment forms (located in the Staff Development section of your teacher manual) in the back of your "*Florida's Plants and the Native Americans*" Teachers' Manual and complete
3. **Each teacher** shall have students complete the necessary post-visit activity, "Picture Writing", and enclose several copies with the necessary forms
4. After all classes in your school have attended the "*Florida's Plants and the Native Americans*" program, send all completed forms and samples of students' completed activities or questions to:

Karen Bradley  
K-12 Arts Education Resource Teacher  
3310 Forest Hill Boulevard  
Suite C-225  
West Palm Beach, FL 33406-5813  
bradleyka@palmbeach.K12.fl.us

## Picture Writing Activity

**Grade Level:** 3-5

**Subjects/Skills:** Social Studies/History, Language Arts, Visual Arts, Communication & Higher Level Thinking Skills

**Description:** Students will describe an event they may have experienced as a member of a native Floridian tribe using only symbols- no words. Examples of events: hunting, fishing, gathering food, an unexpected encounter with a panther, playing a game

**Method:** Each student will be given a piece of brown construction paper which simulates an animal hide on which to draw symbols to record their story. Black washable markers are the suggested symbol writing instrument.

**Goal:** To encourage students to think about what their life might have been like in a Native Floridian tribe, and how the tribe recorded stories and tribal history.

**Objectives:**

1. Students will think of telling a story using only pictures
2. Students will draw their stories on the "animal hide"

**Background Information:** Students use information and ideas discussed during their Florida's Plants and the Native Americans experience as reference for drawing their stories.

**Materials:** brown construction paper "animal hide" (supplied), black markers

**Procedure:** Encourage students to spend some time reflecting upon their field trip experience. Ask them to draw a picture story that describes an event they may have experienced as a member of a Native Floridian tribe. Remind them that since the Native Floridians didn't write books or journals, this was a method of recording tribal history and important events. When finished, have students share their stories with the class.

**Assessment:**

1. Students depict their story with pictures on the "animal hide"
2. Students tell their story, using their symbolic drawings to the class

**For Teacher In-Service Points:** Teachers make copies of several of the "animal hide" Picture Drawings and send with the necessary forms to the Preservation Foundation of Palm Beach to satisfy the Palm Beach County School District requirements.

## Examples of Picture Writing Symbols

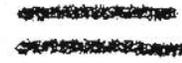
Here are some examples of symbols you may use to draw your picture story, or you may want to make up your own. Some of these symbols have more than one meaning.



Arrow - Protection



Blanket



Clear Path



Arrowhead - Alertness



Bow and Arrow



Corn



Beans



Broken Arrow - Peace



Correct Path



Bear - Strength, Introspection



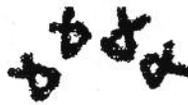
Butterfly - Everlasting Life



Coyote Tracks



Bear Track - Good Omen



Camp



The Creator



Bird - Free of Worry



Canoe



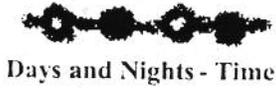
Crossed Arrows - Friendship



Ceremonial Place



Day



Days and Nights - Time



Death



Deer Track - Abundant Game



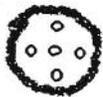
Dragonfly



Eagle - Freedom



Eagle Feather - Sacred, Chief



Earth Lodge



Fence-Guarding Good Luck



Fire



Four Ages-Infant, Youth, Middle Age, Old Age



&



Friendship



Grass



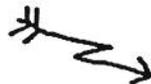
Headdress - Chief



Horse - Journey



Hunting



Lightning - Swiftmess



Man - Life



Medicine Bag



Moon



Path - Crossed



Peace Pipe - Sacred Ceremonia



Pumpkin



Rainbow - Good Prospects

Raindrop-Abundant Crops



Seasons - Winter, Summer, Spring, Fa



Shield



Snake - Defiance



Solstice-Summer



Solstice-Winter



Speech-Communication



Spider



Star



Sun - Happiness



Sun Rays - Consistency

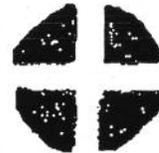
Thunderbird - Ultimate Happiness



Thunderbird Track - Bright Prospect



Turn Back on Path



Water Symbols



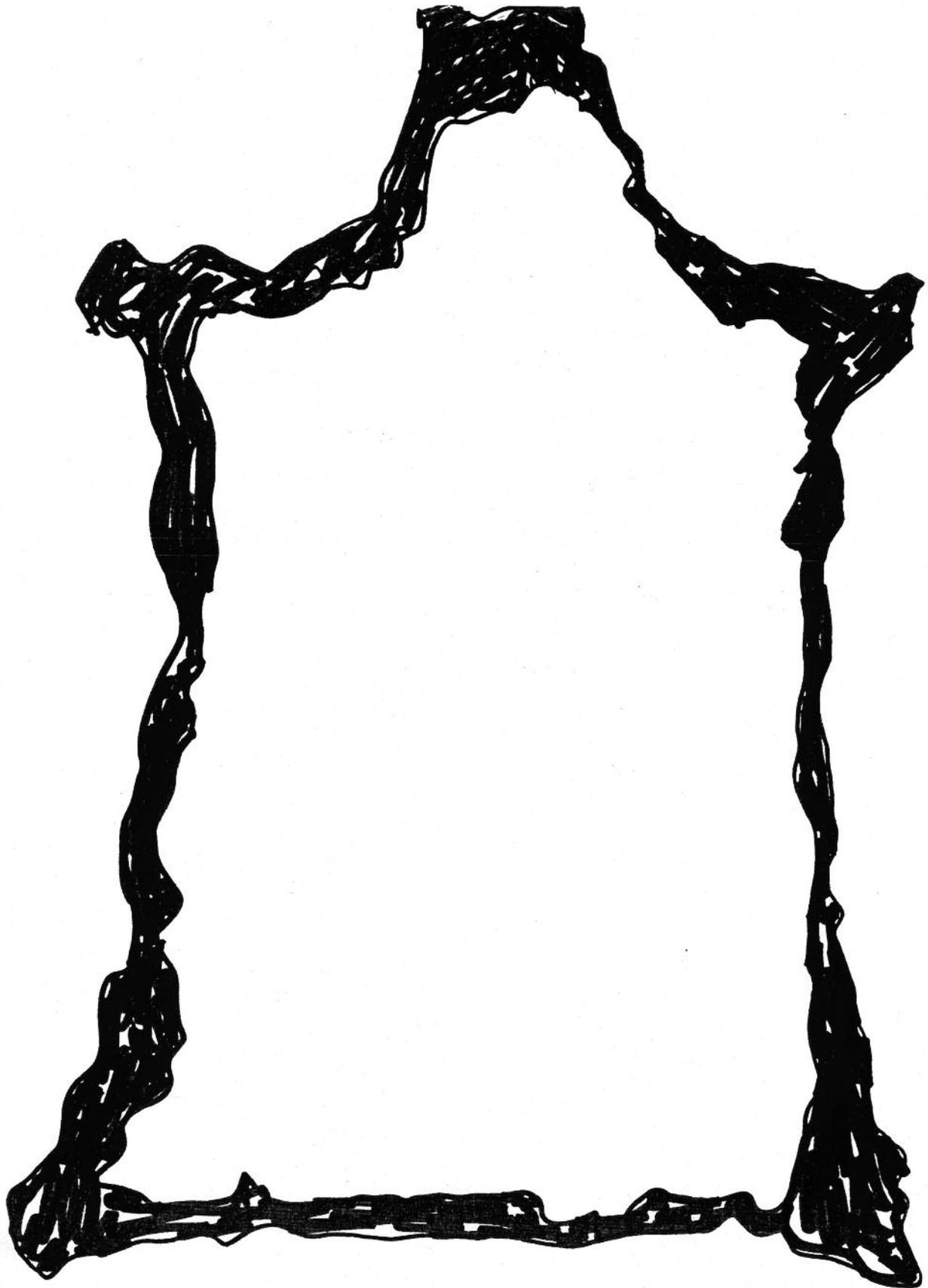
Waterhouse



Water Running - Constant Life



Whirlwind



# STAFF DEVELOPMENT SIGN IN



THE SCHOOL DISTRICT OF PALM BEACH COUNTY  
**Staff Development Sign In - Part A**

COMPONENT NUMBER  
1 0 0 0 0 0 7 - \_\_\_\_\_

Participants **MUST** complete Part A (social security page) **AND** Part B (name page) to be assigned inservice points. Submit originals with the Component Evaluation (PBSD 0471) to the Staff Development office, FHESC B-101.

COMPONENT TITLE Project LEAP #2-Using Arts Integration to support student learning		DATE(S) FROM
COORDINATING SCH/DEPT. NO. 9039	WORKSHOP COORDINATOR Tom Pearson	TELEPHONE NUMBER (PX) ( 561 ) 434 - 8161 48168
INSTRUCTOR(S)		WORKSHOP LOCATION NO. na
WORKSHOP LOCATION Preservation Foundation of Palm Beach		

	SOCIAL SECURITY NUMBER						DISTRICT EMPLOYEE		COMPLETED BY TRAINER		
							YES	NO	COMPLETED YES	COMPLETED NO	POINTS ASSIGNED
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											
23.											
24.											
25.											

# STAFF DEVELOPMENT SIGN IN



THE SCHOOL DISTRICT OF PALM BEACH COUNTY  
**Staff Development Sign In - Part A**

COMPONENT NUMBER  
1 0 0 0 0 0 7 - \_\_\_\_\_

Participants **MUST** complete Part A (social security page) **AND** Part B (name page) to be assigned inservice points. Submit originals with the Component Evaluation (PBSD 0471) to the Staff Development office, FHESC B-101.

COMPONENT TITLE Project LEAP #2-Using Arts Integration to support student learning		DATE(S) FROM
COORDINATING SCH/DEPT. NO. 9039	WORKSHOP COORDINATOR Tom Pearson	TELEPHONE NUMBER (PX) ( 561 ) 434 - 8161 48168
INSTRUCTOR(S)		WORKSHOP LOCATION NO. na
		WORKSHOP LOCATION Preservation Foundation of Palm Beach

	SOCIAL SECURITY NUMBER						DISTRICT EMPLOYEE		COMPLETED BY TRAINER		
							YES	NO	COMPLETED YES	COMPLETED NO	POINTS ASSIGNED
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											
17.											
18.											
19.											
20.											
21.											
22.											
23.											
24.											
25.											

**ASSESSMENT, IMPLEMENTATION, AND IMPACT**

**NAME:**

**LAST 4 DIGITS OF SS#:**

**SUBJECT(S) TAUGHT:**

**GRADE LEVEL:**

**FIELD EXPERIENCE TITLE:** FLORIDA'S PLANTS AND THE NATIVE AMERICANS

**DATE ATTENDED:**

**COMPONENT TITLE:**

**COMPONENT #:**

**CONTACT INFORMATION**

**WORK PHONE:**

**HOME PHONE:**

**SCHOOL EMAIL ADDRESS:**

**A. PRE-ASSESSMENT**

- I. BRIEFLY DESCRIBE WHY YOU CHOSE TO ATTEND THIS FIELD EXPERIENCE, INCLUDE YOUR PROFESSIONAL GROWTH GOALS.
  
  
  
  
  
  
  
  
  
  
- II. BRIEFLY DESCRIBE YOUR PRE-EXISTING KNOWLEDGE AND/OR SKILLS REGARDING THE OBJECTIVES OF THIS FIELD EXPERIENCE.

**B. DELIVERY/POST-ASSESSMENT**

- I. EXPLAIN THE KNOWLEDGE, STRATEGIES, AND BEST PRACTICE TECHNIQUES GAINED WHILE PARTICIPATING IN THE FIELD EXPERIENCE.
  
  
  
  
  
  
  
  
  
  
- II. HOW WERE THESE STRATEGIES, BEST PRACTICES TECHNIQUES AND/OR MATERIALS IMPLEMENTED IN THE CLASSROOM?

**C. IMPACT ASSESSMENT:**

I. PROVIDE A BRIEF ANALYSIS OF HOW THE STRATEGIES, BEST PRACTICE TECHNIQUES AND/OR MATERIALS PROVIDED FOR THIS FIELD EXPERIENCE HAVE OR WILL HAVE AN EFFECT ON YOUR PROFESSIONAL GROWTH AND STUDENT ACHIEVEMENT.

A) TEACHER:

B) STUDENT:

NOTES AND ADDITIONAL INFORMATION OR COMMENTS

TO RECEIVE IN-SERVICE POINTS YOU MUST:

COMPLETE ALL FOLLOW-UP ACTIVITIES.

COMPLETE THE "STAFF DEVELOPMENT FOLLOW-UP ASSESSMENT, IMPLEMENTATION AND IMPACT FORM.

PLEASE REFER ALL QUESTIONS TO TOM PEARSON AT PX 48161 OR (561) 434-8161.

PRESERVATION FOUNDATION OF PALM BEACH  
FLORIDA'S PLANTS AND THE NATIVE AMERICANS

### EVALUATION

NAME (OPTIONAL)

PLEASE RATE THE FOLLOWING	5	EXCELLENT .....	1	NEEDS IMPROVEMENT		
PRESENTER(S)	5	4	3	2	1	NA
ORGANIZATION	5	4	3	2	1	NA
OPPORTUNITY FOR INTERACTION	5	4	3	2	1	NA

**PLEASE ANSWER THE FOLLOWING:**

1. THE MOST MEANINGFUL THING I LEARNED FROM THIS FIELD EXPERIENCE WAS...
2. I NOW UNDERSTAND...
3. I WOULD LIKE TO KNOW MORE ABOUT...
4. ONE THING I WOULD CHANGE OR ADD...
5. WHAT WOULD YOU LIKE TO SEE AS A FOLLOW UP TO THIS SPECIFIC FIELD EXPERIENCE?
6. WHAT WILL YOU CHANGE IN YOUR DAY-TO-DAY WORK AND OR WORKPLACE AS A RESULT OF THIS FIELD EXPERIENCE?

ADDITIONAL COMMENTS ARE APPRECIATED. THANK YOU!