



TREES SURROUNDED BY SEAS

6th and 7th grade

PORT ROYAL SOUND FOUNDATION
NATURE HIKE

"IN EVERY WALK WITH NATURE, ONE RECEIVES FAR MORE THAN HE SEEKS."

-John Muir



BEAUTYBERRY

CALLICARPA AMERICANA

fruit is high in moisture content and is an important food source for many animals.



RED FOX (*VULPES VULPES*)

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DETAILS

Program Overview

Learning local flora can help identify where you are in the maritime forest. This program helps teach kids about plant growth, speciation, working in groups and how to problem solve using a dichotomous key.

Lesson Description

Using a dichotomous key students will identify local plants found in our maritime forest and salt marsh. The hour and half nature hike along our Mobley Tract Trail takes them through a maritime forest and a salt marsh and ends at an outdoor classroom where they will identify plant species they have collected along the way.

What to Wear and Bring

Closed toed shoes that can get muddy (bag to put muddy shoes in), extra shoes, a reusable water bottle, hat, sunglasses, sunscreen, bugspray, pencil or pen and lunch/snack.

Reservation and Program Information

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Maritime Center
(843) 645 - 7774 ext. 203

Differentiation of Instruction

Please inform us at the time of your reservation of any special needs, disabilities, allergies, or language barriers your students have so that we may better enhance your experience and make any changes necessary.

Location

The Port Royal Sound Foundation Maritime Center is located at 310 Okatie Hwy, Okatie, SC, 29909, underneath the Lemon Island bridge.

If you are coming from Bluffton please exit to the right of the Lemon Island bridge and drive under the bridge. DO NOT TURN LEFT and cross highway.

If you are coming from Beaufort you will exit to the right, and when departing will drive under the bridge and exit on the opposite side. DO NOT TURN LEFT and cross highway.

Facilities

Restrooms and water fountain are available at the Maritime Center. The maximum number of children per field trip is 60 kids. Per Beaufort County schoold district policy there will be a 10 to 1 chaperone ratio, chaperones and teachers are free of charge but we encourage as many adults as possible. We will provide a lunch space with trash and recycling cans but clean-up falls onto the school and schools will be charged if deemed necessary.



Expectations for Student Conduct on Site

“In every walk with nature, one receives far more than he seeks.” - John Muir

In order for students to gain the most knowledge from their experience here at the Maritime Center, please remind them of the expectations for the trip and for their behavior on site. We suggest the following T.R.I.P. guidelines:

- T** Together. Stay with the group and with the adult in charge.
- R** Respect. Be considerate of your surroundings and the people around you. Only touch what you have been told you may touch.
- I** Interest. Show your interest by paying attention to the guide and listen well. Ask thoughtful questions.
- P** Polite. Use your best manners and thank your guide.





EASTERN REDCEDAR

JUNIPERUS VIRGINIANA

The gray to bluish-green fruit, which is actually a cone, is eaten extensively by Cedar Waxwings.



SC STANDARDS & PERFORMANCE INDICATORS

Sixth Grade Standards and Performance Indicators for Science

Standards

6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce.

Conceptual Understanding

6.L.5B. The Plant Kingdom consists of organisms that primarily make their own food (autotrophs) and are commonly classified based on internal structures that function in the transport of food and water. Plants have structural and behavioral adaptations that increase the chances of reproduction and survival in changing environments.

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Performance Indicators

6.L.5B.1: Construct explanations of how the internal structures of vascular and nonvascular plants transport food and water.

6.L.5B.3: Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

6.L.5B.4: Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant.

6.L.5B.5: Analyze and interpret data to describe how plants respond to external stimuli (including temperature, light, touch, water, and gravity).

Science and Engineering Practices

6.S.1A.2 Develop, use, and refine models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.

6.S.1A.4 Analyze and interpret data from informational texts, observations, measurements, or investigations using a range of methods (such as tabulation, graphing, or statistical analysis) to (1) reveal patterns and

construct meaning or (2) support hypotheses, explanations, claims, or designs.

6.S.1A.6 Construct explanations of phenomena using (1) primary or secondary scientific evidence and models, (2) conclusions from scientific investigations, (3) predictions based on observations and measurements, or (4) data communicated in graphs, tables, or diagrams.

SC STANDARDS & PERFORMANCE INDICATORS

Seventh Grade Standards and Performance Indicators for Science

Standards

7.EC.5: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments.

Conceptual Understanding

7.EC.5A: In all ecosystems, organisms and populations of organisms depend on their environmental interactions with other living things (biotic factors) and with physical (abiotic) factors (such as light, temperature, water, or soil quality). Disruptions to any component of an ecosystem can lead to shifts in its diversity and abundance of populations.

7.EC.5B: Organisms in all ecosystems interact with and depend upon each other.

Organisms with similar needs compete for limited resources. Food webs and energy pyramids are models that demonstrate how energy is transferred within an ecosystem.

7.S.1A. The practices of science and engineering support the development of science concepts, develop the habits of mind that are necessary for scientific thinking, and allow students to engage in science in ways that are similar to those used by scientists and engineers.

Performance Indicators

7.EC.5A.1: Develop and use models to describe the characteristics of the levels of organization within ecosystems (including species, populations, communities, ecosystems, and biomes).

7.EC.5A.3 Analyze and interpret data to predict changes in the number of organisms within a population when certain changes occur to the physical environment (such as changes due to natural hazards or limiting factors).

7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive

or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).

7.EC.5B.3: Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.

7.EC.5B.4: Define problems caused by the introduction of a new species in an environment and design devices or solutions to minimize the impact(s) to the balance of an ecosystem.

Science and Engineering Practices

7.S.1A.2 Develop, use, and refine models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.

7.S.1A.4: Analyze and interpret data from informational texts, observations, measurements, or investigations using a range of methods (such as tabulation, graphing, or statistical analysis) to (1) reveal patterns and construct meaning or (2) support hypotheses, explanations, claims, or designs.

7.S.1.B.1: Construct devices or design solutions using scientific knowledge to solve specific problems or needs: (1) ask questions to identify problems or needs, (2) ask questions about the criteria and constraints of the device or solutions, (3) generate and communicate ideas for possible devices or solutions, (4) build and test devices or solutions, (5) determine if the devices or solutions solved the problem and refine the design if needed, and (6) communicate the results.



SEA OXEYE DAISY

BORRICHIA FRUTESCENS

Sea Oxeye Daisy is a native pollinator found in a variety of habitats from sea islands to freshwater wetlands.

TEACHER AND STUDENT RESOURCES



[The Sibley's Guide to Trees](#)
by David Allen Sibley



[USDA, NRCS. 2018.
The PLANTS Database.
National Data Team,
Greensboro, NC 27401 USA](#)



[Familiar Trees of South Carolina](#)



[Monocot vs. Dicot](#)



[Salt marsh field guide](#)

FOR DETAILED INFORMATION ABOUT SPECIFIC MARITIME FOREST AND SALT MARSH PLANTS

American Beautyberry

[EDIS](#)

[USDA](#)

Red maple

[EDIS](#)

[USDA](#)

Cabbage Palmetto

[EDIS](#)

[USDA](#)

Sea oxeye daisy

[EDIS](#)

[USDA](#)

Chinese tallow

[EDIS](#)

[USDA](#)

Sweetgum

[EDIS](#)

[USDA](#)

Live oak

[EDIS](#)

[USDA](#)

Waxmyrtle

[EDIS](#)

[4-H Forest Resources](#)

[USDA](#)

Loblolly pine

[EDIS](#)

[USDA](#)

Yaupon holly

[EDIS](#)

[4-H Forest Resources](#)

[USDA](#)

Red cedar

[EDIS](#)

[USDA](#)



AMERICANSWEETGUM

LIQUIDAMBAR STYRACIFLUA

One of the most commercially important trees in SE even the sap is used and known as liquid amber.



VOCABULARY

The following academic vocabulary is associated with the pre-visit, on-site, and post-visit activities in “Trees Surrounded by Seas.” According to the South Carolina Academic Standards and Performance Indicators for Science, students should be familiar with most of these terms by the end of seventh grade. Terms that are explicitly mentioned in either the sixth or seventh grade standards and support documents are marked with an asterisk.

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***Abiotic factor:** part of an ecosystem that has never been alive

***Adaptation:** a structure or behavior of a plant or animal that makes it better able to live in a particular place or situation

***Biotic factor:** living or once living part of an ecosystem

***Community:** all the different populations in a specific area at a certain time

***Cone:** the woody seed-bearing structure of a conifer

Dichotomous key: a key for identification that uses sets of statements that are divided into 2 contradictory parts

***Dicot:** flowering plants with 2 cotyledons in the seed, flower parts in multiples of 4 or 5, and netlike veins in the leaf

***Diffusion:** movement of material across a membrane from an area of higher concentration to an area of lower concentration

***Ecosystem:** one or more communities in an area and the abiotic factors (for example water, sunlight, oxygen, temperature, soil) in that area

Estuary: bodies of water usually found where rivers meet the sea

***Glucose:** a simple sugar plants make using photosynthesis and use to fuel life functions

***Invasive species:** a species that is 1) non-native to the ecosystem under consideration and is 2) likely to cause economic or environmental harm

***Limiting Factor:** anything that prevents a population from growing larger

Maritime forest: wooded habitat found along an ocean or estuary

***Monocot:** flowering plants with only 1 cotyledon in the seed, flower parts in multiples of 3, and parallel veins in the leaf

***Nonvascular:** plants that rely on osmosis to carry water and food (glucose) from cell to cell in the plant; tend to be small plants

***Osmosis:** the diffusion of water across a membrane

Overstory: the taller trees in a forest community; aka tree canopy

***Phloem:** plant tissue in the stem of a plant that transports food (glucose) from the leaves to growing parts of the plant

***Photosynthesis:** a process that occurs in chloroplasts of plant cells that creates the glucose plants need to carry out life functions



SAW PALMETTO

***Phototropism:** response of a plant to light

***Population:** all of the individuals of a given species in a specific area at certain time

***Respiration:** a process that occurs in plant and animal cells that breaks down glucose to create energy to fuel life functions

***Species:** the individual living organism; organisms of the same species can reproduce to make more of that species

***Transpiration:** loss of water vapor through the pores of a leaf

***Tropism:** a response of a plant to conditions in its environment

Understory: the shrubs and grasses in a forest community

***Vascular:** plants have special tissues called xylem and phloem to carry water and food (glucose) throughout the plant

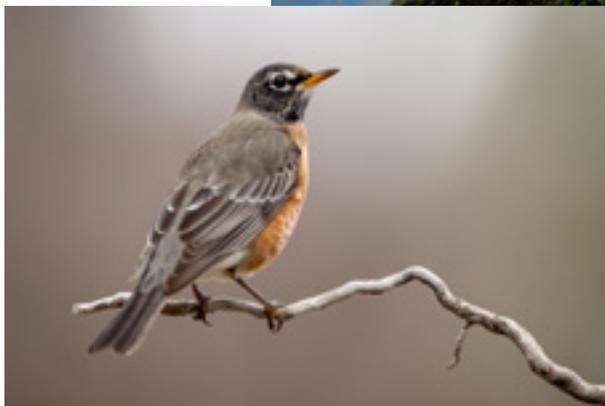
***Xylem:** plant tissue in the stem of the plant that transports water from the roots to the leaves and other plant parts



SABAL PALM

SABAL PALMETTO

South Carolina's state tree. Its fruit which was used for headaches and to lower fevers, is 10% to 25% of the diet for raccoons and robins.



PRE-VISIT LESSON 1: WHAT IS A MARITIME FOREST?

This teacher-led experience should be completed BEFORE the students attend the on-site experience at the Maritime Center and will greatly enhance the learning students accomplish on-site.

Time to Complete: 45-50 minutes

Lesson Description

The Trees Surrounded by Seas Pre-Visit Lesson 1 is designed to familiarize students with the definition and uniqueness of a maritime forest community. Having your students complete the activity a day or so prior to the hike will help them be ready to absorb the details of the forest as they walk and will give them background knowledge to build confidence and engagement. Students read articles about maritime forests, watch a short video clip, and then participate in a class discussion regarding how maritime forests compare to other forests.

Materials for the Pre-Visit Lesson 1:

Informational Article “What is a Maritime Forest?”
Maritime Forest Notes

Digital resources for further study:

[Lowcountry Maritime Forest: On the Edge](#)

By Bluffton Today

[Maritime Forest](#)

By US Fish and Wildlife Service

[Maritime Shrub](#)

By US Fish and Wildlife Service

[Maritime Forests \(video clip and transcript text\)](#)

By Ocean Today

Teacher Preparation

Prepare enough copies of the “What is a Maritime Forest” article and of the “Maritime Forest Notes” page for your students.

If pursuing the digital resources, make sure you have enough devices for students to work in small groups to research maritime forests.

Procedures

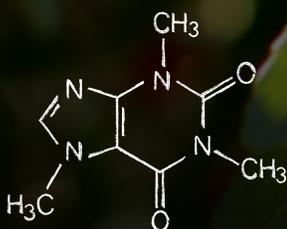
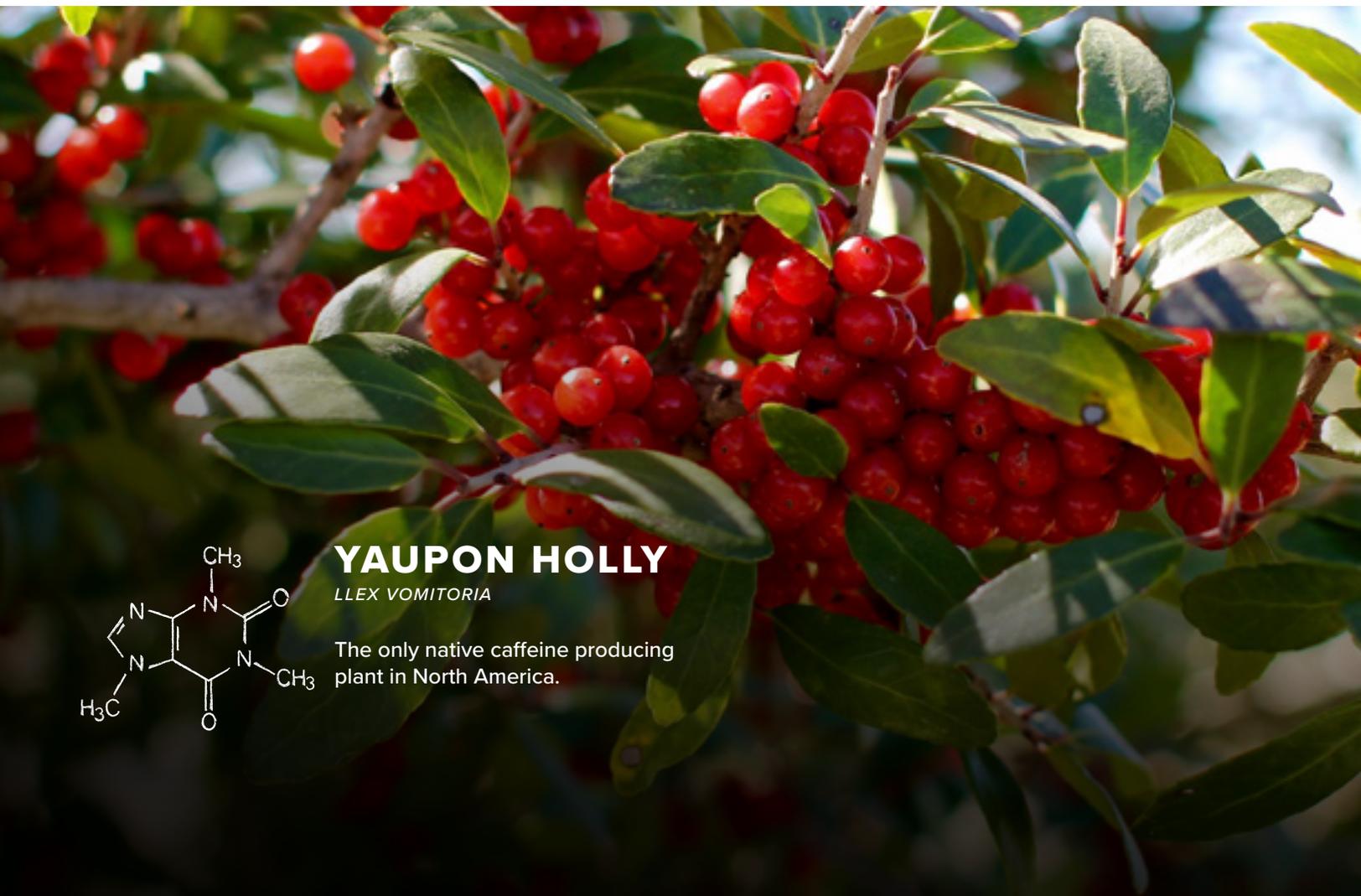
Distribute copies of “What is a Maritime Forest?” and “Maritime Forest Notes” to students and have students read through the information and make notes. Students may also benefit from reading the digital sources of information about maritime forests embedded at the bottom of the article.

Show the video clip entitled “Maritime Forests” on the Ocean Today website. This will provide students with visuals to accompany the ideas in the “What is a Maritime Forest?” article.

Lead a discussion about forests and different types of forests. As the discussion progresses, you may find it helpful to remind students that

the climate of an area determines the plant species found there. In turn, the plant species determine the animal species. You may find the following prompts helpful:

- What are some characteristics of any forest? How are all forests alike?
- How are forests different from each other? For example, how is a rainforest different from a deciduous forest? What environmental factors cause these differences?
- What makes a maritime forest different from other forests?



YAUPON HOLLY

LLEX VOMITORIA

The only native caffeine producing plant in North America.

PRE-VISIT LESSON 2: HOW DO WE IDENTIFY PLANTS OF A MARITIME FOREST?

This teacher-led experience should be completed BEFORE the students attend the on-site experience at the Maritime Center and will greatly enhance the learning students accomplish on-site.

Time to Complete: 45-50 minutes

Lesson Description

The Trees Surrounded by Seas Pre-Visit Lesson 2 is designed to familiarize students with the scientific vocabulary and dichotomous key they will use as they identify the plants commonly found in maritime forests and salt marshes. Having your students complete the activity a day or so prior to the hike will help them practice closely observing plants for specific characteristics and practice using a dichotomous key and scientific vocabulary to identify the plants they collect during their hike at the Maritime Center. In addition, this activity provides a natural segue for a conversation with students regarding the patterns they observe in analyzing the structures of vascular plants and how these structures allow the plants to function successfully in this location.

Materials for the Pre-Visit Lesson 2:

Quiz-quiz trade cards:
Dichotomous Key Vocabulary
Key to Common Plants Along the Mobley Tract Trail
Photographs of Plants of the Mobley Tract Trail
Common Plants Along the Mobley Tract Trail Answer Sheet

Teacher Preparation

1. Print a copy of the Dichotomous Key Vocabulary Quiz-Quiz-Trade Cards. Fold each page lengthwise (a “hot-dog” fold) and then separate the cards by cutting between them. This should give a ready made flash card with a question on one side and the accompanying answer on the back. Each page makes 3 cards.
2. Review the Quiz-Quiz Trade Procedure described below and introduce the procedure to your students.
3. Prepare enough copies of the dichotomous key, plant specimen photos, and answer sheet for your class. Teachers usually provide one dichotomous key per student and one set of specimen photographs and one answer sheet per small group.

Procedures

Part 1: Introduction to the dichotomous key vocabulary.

The goal of this activity is to familiarize students with the scientific vocabulary used to classify plants using leaf structures. One engaging way to introduce the vocabulary and give students practice using and saying the vocabulary is to use a cooperative learning structure developed by Spencer Kagan called Quiz-Quiz-Trade (QQT). In QQT, all students get a chance to be a teacher and a learner. QQT utilizes note cards that have questions on one side and answers on the other. Each student gets a card. QQT is a 7 step process and is outlined below:

Quiz-Quiz-Trade Procedure

- Step 1:** Students stand up and put their hands up to indicate they need a partner. When they find a partner, they high five the partner and begin.
- Step 2:** Partner A asks Partner B the question on Partner A's card.
- Step 3:** Partner B answers the question.
- Step 4:** Partner A praises Partner B if the correct answer was given or teaches Partner B if the wrong answer was given.
- Step 5:** The partners switch roles and Partner B is the asker and teacher.
- Step 6:** After each partner has asked the other the question on his/her card, the partners trade cards and then raise their hands to find new partners.
- Step 7:** Repeat steps 1-6 as many times as possible in a 7-10 minute time period.

Part 2: Introduction to Dichotomous Keys

Using the attached photographs of the Plants of the Mobley Tract Trail, students will practice using a dichotomous key.

Separate your class into small, cooperative groups. Give each group a copy of the Dichotomous Key to Common Plants Along the Mobley Tract Trail and the plant specimen photographs.

Have students work in pairs to key out and identify each plant, keeping track of how they arrived at each decision. Have them record their decisions.

Once students have keyed out the plants, review the answers and the use of the key. You may find the following prompts helpful:

1. What did all of the plants have in common?
2. What characteristics could you use to separate the plants into two groups?
3. What characteristics could you use to separate the plants into three groups?
4. What difficulties did you encounter attempting to key out the plants using only pictures?

See Dichotomous Key on page 20

REPRODUCIBLES

Dichotomous Key to Common Plants Along Mobley Tract Trail

1.	a. Trees with needlelike or scalelike leaves (conifers)	Go to 2
	b. Broad, flat leaves	Go to 3
2.	a. Scale-like or 3-sided needles; "Christmas tree" appearance in mature form	Red cedar <i>Juniperus silicicola</i>
	b. 3 needles in each fascicle (bundle); needles distributed along twigs and branches, gray-brown cones with strong prickles, about 4-9" long needles	Loblolly pine <i>Pinus taeda</i>
3.	a. Leaves fan-shaped and 2 or more feet across	Cabbage palmetto <i>Sabal palmetto</i>
	b. Leaves otherwise	4
4.	a. Leaves opposite	5
	b. Leaves alternate	7
5.	a. Plant is tree-like with one main trunk, leaves are simple, in pairs, 3-5 lobes, double-serrated margins, palmate venation	Red maple <i>Acer rubrum</i>
	b. Plant is shrub-like with a very short trunk that branches into many stems near the ground	6
6.	a. Leaves are simple, oval with pinnate venation and serrated margin near the base but smooth around the tip, are somewhat thick and fleshy, 2-4" long	Sea oxeye daisy <i>Borrchia frutescens</i>
	b. Leaves are simple, oval with pinnate venation and a serrated margin, 3-7" long, both upper and lower leaf surfaces have short hairs, small, purple berries may occur in dense clusters around the stem	American Beautyberry <i>Callicarpa americana</i>
7.	a. Plant is tree-like with one main trunk	8
	b. Plant is shrub-like with a very short trunk that branches into many stems near the ground	10
8.	a. Leaves are simple with palmate venation, star-shaped with 5 points, aromatic when crushed	Sweetgum <i>Liquidambar styraciflua</i>
	b. Leaves are simple with pinnate venation	Go to 9
9.	a. Leaf (3") almost as wide as long, strongly tapered at tip and tapered at base; petiole contains white latex sap	Chinese tallow tree <i>Triadica sebifora</i>
	b. Leaf (3") curled under at edge, bark is dark	Live oak <i>Quercus virginiana</i>
10.	a. Leaf (< 2" long) oval, thick and leathery, dark green on top, pale underneath, both base and tip rounded, margins scalloped (serrations are rounded)	Yaupon holly <i>Ilex vomitoria</i>
	b. Leaf (2-4" long) elliptical, margins are coarsely serrated, dark glands on top surface, bright orange glands underneath, aromatic when crushed, small, blue berries may occur in dense clusters around the stem	Waxmyrtle <i>Myrica cerifera</i>

COMMON PLANTS ALONG THE MOBLEY TRACT TRAIL ANSWER SHEET

Answer Key

Plants of the Mobley Tract
Trail identifications:

Waxmyrtle

Yaupon holly

Red cedar

Loblolly pine

Cabbage palmetto

Red maple

Sea oxeye daisy

American beautyberry

Sweetgum

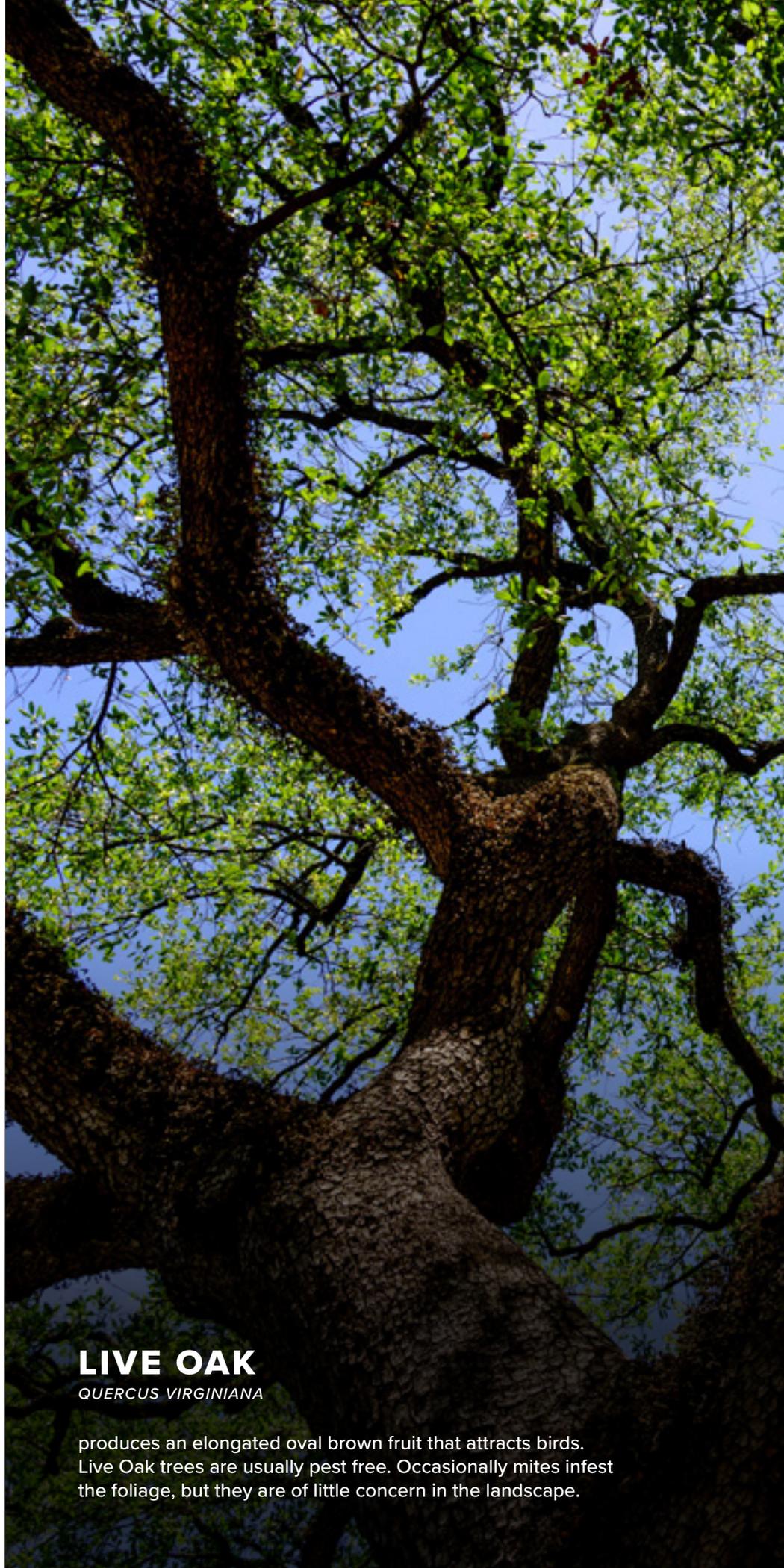
Chinese tallow tree

Live oak

LIVE OAK

QUERCUS VIRGINIANA

produces an elongated oval brown fruit that attracts birds. Live Oak trees are usually pest free. Occasionally mites infest the foliage, but they are of little concern in the landscape.



ONSITE EXPERIENCE

TREES SURROUNDED BY SEAS

Naturalist-Led Field Experience to be completed ON SITE at PRSF

Time to Complete: 1 hour 30 minutes

Lesson Description

Students hike through a Maritime forest plucking a variety of leaves from trees. At the end of the trail an outdoor classroom awaits for students and their trusty dichotomous keys to help identify plant life thriving in the forest.

Focus Questions

What is a Maritime Forest?

How can you tell where you are in a salt marsh?

In what ways are seeds dispersed?

What plant defines a salt marsh?

What is a hummock island?

Materials and Resources

Dichotomous key

“Guide to the Salt Marshes and Tidal Creeks of Coastal South Carolina” will be available for guides.

Port Royal Sound Foundation’s Maritime Forest Species List

Maritime forest trees

- Loblolly pine
- Red cedar
- Chinese tallow
- Sweet gum
- Live oak
- Red maple
- Blackgum Tupelo
- Sabal palmetto
- Common post oak

Maritime forest shrubs

- Yaupon holly
- Saw palmetto
- Wax myrtle
- Salt myrtle
- Beauty berry

Maritime forest vines

- Carolina Jessamine
- Virginia creeper
- Poison ivy

Marsh species

- Smooth cordgrass
- Black needle rush
- Pickleweed
- Saltwort
- Sea oxeye daisy

TEACHER PREPARATION

Review information in the Program Overview.

Procedures

Guide will begin with basic safety at the maritime center

- Never go ahead of lead guide
- Stay in a close group while crossing the parking lot
- No rough housing or running during parking lot crossing

Once at the trailhead guide, will give further instructions

- Again do not go ahead of lead guide
- Keep your voices down so as to not scare the wildlife
- Stay on the trail at all times (snakes will be found on the side or off the trail)
- Be vigilant (most animals are spotted by kids). When spotting an animal do not scream simply alert a chaperone and point to what you see.
- While walking down the path find a few choice specimen leaves and branches to be used at the end for the dichotomous key

Take group to first intersection and hang a right to salt marsh

- Speak about salt marsh zonation
 - Salt marsh flora and fauna
- Allow kids to roam freely in salt flat and instruct to locate fiddler crabs, plants, periwinkle snails and anything that is unique and of interest

Judge the interest of kids and proceed to the freshwater pond

- Walk around the pond and make your way to the outdoor classroom

While at the outdoor classroom present all the leaves and limbs you have gathered along the way

- Using the dichotomous key allow students to work in groups and identify what species of trees they have come across (dichotomous key only identifies tree species will not contain, shrubs, vines, or salt marsh plants previously listed)

Culminating Assessment:

What is a non-native species?

What is a non-native invasive species?

How does flower structure and color indicate what type of pollinator it attracts?

What other ways do plants disperse pollen?

How do birds and insects affect plant populations in a forest?

POST-VISIT LESSON: SCHOOL PLANT GUIDE?

This teacher-led experience should be completed after the students attend the on-site experience at the Maritime Center and will greatly enhance the learning students accomplish on-site.

Time to Complete: 2-3: 45 minutes sections

Lesson Description

This activity is created to get students outside and into nature through problem-based learning. The activity uses what students have learned in the classroom and at the maritime center to identify various species around their school. Research projects can be created in groups to better understand plant placement, by looking at zonation, adaptations, relative abundance, and history.

Assessment

The objective of this activity is to create a plant field guide for your school. Students broken up into groups of 2 or 3 will work to identify plants in the school yard and create a page for their identified plant. The plants page should include physical, geographical, and historical information obtained through research and observation.

Extension Activity

Students should create their plant page with an addition of drawing and coloring their identified plant. Students should focus on plant structure such as height, root system, branching, leaf structure, fruits and flowers.

Materials and Resources

Review information posted in Teacher and Student Resources

Procedures

1. It would be best before starting the activity if the teacher did some preliminary work to identify plants around the school yard, so locations of a variety of species are known. (If you need help with this please feel free to contact the center or send pictures via email.)
2. Begin the activity by quickly reviewing physical characteristics of plants (monocot vs dicot, trees, shrubs, vines, deciduous or evergreen, compound and simple leaves, adaptations, etc.). Discussing common lowcountry species will also be advantageous.
3. After review, split class into small groups of 2-3. Groups will locate and identify 1-2 plants. The group will take samples (leaves, bark, insects found on them, pictures, and location) and work to fully identify.



LOBLOLLY PINE

SABAL PALMETTO

six to nine-inch-long evergreen needles turn light green to brown during the winter. Often-paired cones are three to six inches long, red/brown, and have very sharp spines.



4. Using any resources (books and online) students will create a classroom field guide of what their selected plants role is in the ecosystem (symbiotic relationships, habitat, food, etc), the history of how that plant came to be here (native, forestry, invasive, non-native), human impacts, etc.
5. Each plant should have 1-2 pages of information depending on the importance and significance of the plant. Students will be able to use knowledge learned as well as expand their knowledge through research.
6. This is also a time for students to express their artistic abilities through drawings and renderings. This activity can also be expanded in a literature aspect having kids create poems about each species.





CAROLINA JESSAMINE

GELSEMIUM SEMPERVIRENS

South Carolina's state flower. This plant is highly toxic with bright yellow flowers that attract a variety of pollinators.



This field trip module is possible through a grant from Community Foundation of the Lowcountry.



PORT ROYAL SOUND FOUNDATION

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SPECIAL THANKS

to Donna Moore who helped design and create this field trip module.