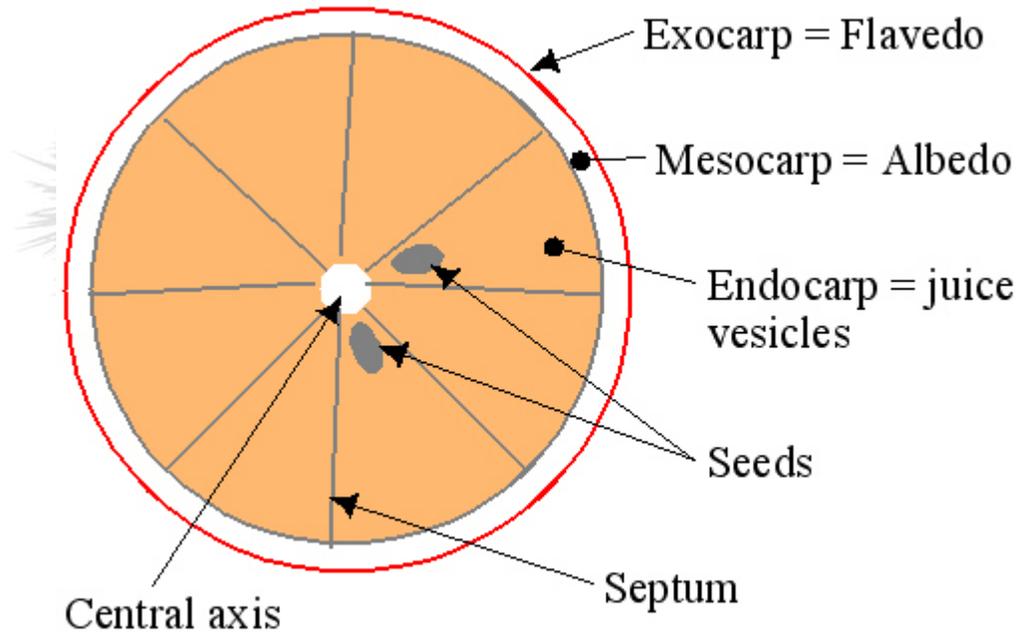




Post-Trip Lesson Plan Citrus

- I. Grade level: grades 3-5
- II. Objectives:
 - a. To understand the importance of the citrus crop in Florida.
 - b. To discover how citrus crops are grown in Florida.
 - c. To determine how shipment of citrus crops became important for the industry's survival.
- III. Standards:
 - a. Sunshine State Standards (2006):
 - 1) Social Science: Time, Continuity, and Change: Standard 1: uses a variety of methods and sources to understand history and knows the difference between primary and secondary sources.
 - 2) Social Science: Time, Continuity, and Change: Standard 6: Understands the history of Florida and its people.
- IV. Vocabulary:
 - a. Citrus: a tree or shrub that produces citrus crops, such as lemons and oranges.
 - b. Harvesting: the action of collection and gathering crops. This is usually done when plants have begun to ripen and are soon ready for consumption.
 - c. Shipment: Transferring goods from one area to another.
 - d. Freight: the goods or cargo that is being shipped in the shipment.
 - e. Flowers: Citrus trees create fragrant white flowers that pollinate before producing a citrus crop.
 - f. Pollination: The spreading of pollen to help germinate seeds and grow plants.
 - g. Exocarp: the outer most layer of the fruits wall.
 - h. Mesocarp: the middle layer of the fruits skin, usually a fleshy part.
 - i. Endocarp: the innermost layer of a fruits skin, in citrus this area is usually the part consumed
 - j. Seeds: a hard ovular shaped object, which is planted to grow new plants.
 - k. Septum: a dividing wall or thin membrane that divides the endocarp.
 - l. Central Axis: the core of a citrus fruit of which all of the other citrus parts surround.

m.



V. Quick Facts:

- a. Today Florida produces 83 % of the citrus crop in the United States; Texas is the next largest producer in the United States producing 10% of the crops.
- b. The first shipments of citrus out of Florida began in the 1700s.
- c. Florida used either a train or ships to transfer citrus crops to their destination.
- d. The first railroad built in Florida expanded the amount of citrus crops that could be shipped out of the state, as well as, provided a quicker method of shipping.

Activity 1: Worksheet: Florida's Citrus Crop

VI. Materials:

- a. Worksheet: Florida's Citrus Crop
- b. Writing Utensil

VII. Procedures: Pass out the worksheet: Florida's Citrus Crop to the Class. Give students time to review the worksheet, and then separate the class into partners or groups. Give students time to prepare for their presentations, and then time to present their presentations. After the presentation the students are to complete the rest of the worksheet.

VIII. Assessments: This activity can be graded based on participation, interpretation of the provided material, and completion.

IX. Open-Ended Questions:

- a. Why is citrus important today?
- b. How often do you eat citrus today?
- c. How often do you think people ate citrus in 1898? (think about how people use to eat citrus once a year during the holiday season)



- d. How does reading primary source information (such as these excerpts) help give better insight to the subject you are studying?

Activity 2: Citrus

- X. Materials:
- Worksheet: Citrus and Vocabulary
 - Large Styrofoam balls (1 per student)
 - Tissue Paper
 - Construction paper
 - Tooth picks
 - Crayons, Markers, Pencil Crayons
- XI. Procedures: Verbally generate a list of the various citrus crops with the class. Then review the list provided below. Hand out the worksheet: Citrus and Vocabulary to the class, and allow time for the students to complete the worksheet and the craft project.
- XII. Types of Crops: lime, sour orange, pummelo, kaffir lime, lemon, wild orange, citron, calamondin, grapefruit, mandarin, sweet orange
- XIII. Assessments: This activity can be based on the use of vocabulary words, following instructions, use of historical information, and creativity.
- XIV. Open-Ended Questions:
- What types of Citrus do you eat?
 - How would you define citrus today?
 - What part of the fruit protects the fruit? (Exocarp)

Activity 3: Transportation of Citrus

- XV. Materials:
- Citrus Fruits created in activity 2
 - Two large boxes (as metal cartons)
 - Two large Boxes (as boxes)
- XVI. Procedures: Review the history of the transportation of Fruit in 1898 provided below. Have each student take notes on the various steps while you read the steps to the class. Then Separate the class into two groups. Have each group pick a brand name for their shipping group as well as an address. Have each group pack the fruit that they created in activity 2 into a large box following the procedures from 1898. (This activity can be done as a competition between the two groups).
- XVII. History:
- Do not pick oranges when the weather is damp or the fruit is wet
 - Do not pull fruit from the tree, cut the fruit down with clippers
 - Place the fruit into metal cartons while gathering
 - Next pack the fruit into boxes, lift each fruit individually never pour the fruit from the metal cartons into the boxes because the fruit will then spoil.
 - Store the fruit in a dry area until they are taken to packing houses, where the fruit will be dried for two or three days
 - Next the fruit can be packed tightly into boxes without the threat of spoiling due to the fruit being dried.



- g. While packing discard any damaged fruit. Place in boxes with varying layers.
 - h. After being packed the fruit is wrapped. This is done with tissue paper
 - i. The name and address of the grower and the brand of the fruit is printed on the box.
 - j. The fruit is then taken to a train to be shipped as freight.
- XVIII. Assessments: This is a collaborative project within the classroom and can be graded based on assessing your students understanding of the history and vocabulary of transporting citrus crops.
- XIX. Open-Ended Questions:
- a. How long do you think it takes fruit to be packed and shipped today?
 - b. How long do you think it took the fruit to be packed and shipped in 1898?
 - c. Do you think using a train in 1898 would take longer than a truck today?
 - d. Weather conditions could ruin the crop on a train because there is no climate control. For example, if a frost occurred many of the citrus crops would spoil. How has the use of a truck improved transportation for citrus crops?
- XX. Sources:
- a. Rieger, Mark. *Citrus: Lemon, Lime, Orange, Tangerine, Grapefruit-Citrus Supp.* University of Georgia. Retrieved on September 18, 2008 from <http://www.uga.edu/fruit/citrus.html>
 - b. Mann, A. S. "Gathering and Packing Oranges." *The Florida Agriculturist*. Dec. 17, 1890.



Name: _____ Date: _____

Post-Trip Lesson Plan Citrus and Vocabulary

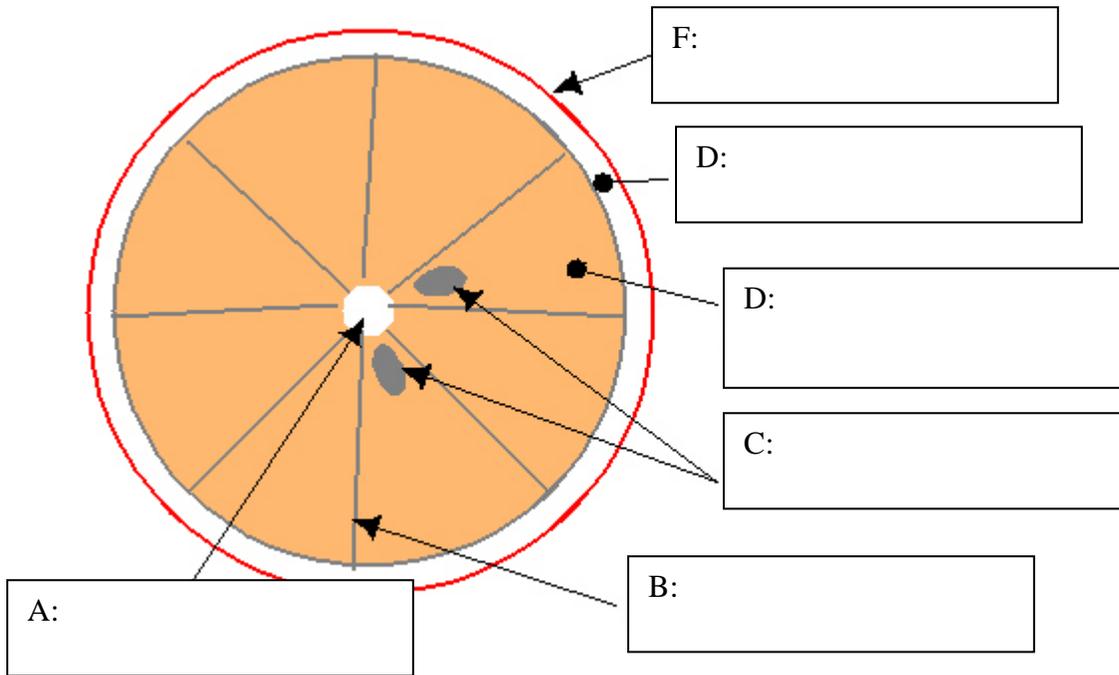
Instructions: Review the vocabulary provided below. Then complete the worksheet.

1. Citrus: a tree or shrub that produces citrus crops, such as lemons and oranges.
2. Harvesting: the action of collection and gathering crops. This is usually done when plants have begun to ripen and are soon ready for consumption.
3. Shipment: Transferring goods from one area to another.
4. Freight: the goods or cargo that is being shipped in the shipment.
5. Flowers: Citrus trees create fragrant white flowers that pollinate before producing a citrus crop.
6. Pollination: The spreading of pollen to help germinate seeds and grow plants.
7. Exocarp: the outer most layer of the fruits wall.
8. Mesocarp: the middle layer of the fruits skin, usually a fleshy part.
9. Endocarp: the innermost layer of a fruits skin, in citrus this area is usually the part consumed
10. Seeds: a hard ovular shaped object, which is planted to grow new plants.
11. Septum: a dividing wall or thin membrane that divides the endocarp.
12. Central Axis: the core of a citrus fruit of which all of the other citrus parts surround.



Name: _____ Date: _____

Instructions: Use the vocabulary words and definitions provided above to fill in the blanks.



Citrus packing house. (Florida State Archives, RC05439). Retrieved October 31, 2008 from Florida Memory: State Archives of Florida.



Name: _____ Date: _____

Photograph of a Citrus being boxed.

Citrus Craft:

Instructions: using the list the class created naming the various types of citrus crops choose one and write in the space provided below. Next collect all the materials you will need for the craft.

My Citrus Crop Is: _____

Materials:

1. 1 Styrofoam Balls
2. Tissue Paper
3. Construction paper
4. Tooth picks
5. Crayons, Markers, or Colored Pencils
6. Modeling Clay
7. Glue



Instructions: Use the Diagram you filled in above to create a 3-d diagram

8. Cut the Styrofoam ball in halve.
9. Next color the exocarp with tissue paper that is the color of your citrus fruit (Ex: Lemons would have yellow tissue paper) and glue.
10. On one half of the fruit put clay in the mesocarp and a small dot of clay in the central axis.
11. Using 6-10 toothpicks create the septum. This is done by sticking the ends of the toothpick into each sides of the clay in the mesocarp and the central axis.





Name: _____ Date: _____

Short Story:

Instructions: Next choose one vocabulary list above and write a short story.

Vocabulary Word: _____

Short Story: (Think about if you were a citrus farmer in 1898 how you would use this word, and what kind of importance this word has in your daily life. Use the word three times in your story).



Speer grove : Sanford, Florida. (Florida State Archives, RC02328). Retrieved October 31, 2008 from Florida Memory: State Archives of Florida.



Name: _____ Date: _____

Post-Trip Lesson Plan Florida's Citrus Crop

Instructions: Read all of the passages below provided by the Florida Dispatch from April 9, 1889. Then choose one passage along with a partner to present to the class. **Discuss why Citrus fruit was important in Florida during this time period, how the fruit was grown, how the fruit may be shipped, and define the specified word to the class in relation to the text.** After the presentations define each word and write down the main idea in the correct sections of the worksheet.

1. "I now think more of the orange business for profit than ever I did before, although it is monotonous an expensive work starting a grove. The same at ten years old is as safe an investment as I know of for the comparatively small necessary annual outlay, but must be worked as any other business with discretion to insure success."
 - a. Outlay:

 - b. Main Idea:

2. "My trees set in June have done better than those set out in January, owing to the abundance of rain. I believe in keeping a young grove clean until June or July, and planting cow peas between the rows, about six feet or more from trees, and turning under when in bloom."
 - a. Turning Under:

 - b. Main Idea:

3. "There seemed to be no signs of injury from frosts to the citrus fruits, and but little to the more tender palms and other ornamentals. Almost every orange and lemon orchard was holding a good crop of fruit. Occasionally the trees were planted too closely, or appeared to have been cropped too heavily and manured too little in return, and as a result the leaves looked yellowish, the fruit scarce, and dropping more that it ought."
 - a. Manured:

 - b. Main Idea:



Name: _____ Date: _____

4. "The orange season is about over, and it is therefore too late to say anything that will benefit shippers of the crop of 1887-8, but it is well for shippers to compare notes and provide for the future. Last fall it was announced that an all-rail fast freight line had been established, known as the 'Atlantic Coast Dispatch,' and it was recommended as a great boon to fruit growers, as it enabled them to put their fruit in the Northern markets in three or four days."
 - a. Freight:

 - b. Main Idea:

Sources:

The Florida Dispatch: For Grove and Garden; Farm and Home. Jacksonville, Fla., Monday, April 9, 1888. Vol. 8, No. 15.