



## Post-Trip Lesson Plan Sugar Cane

- I. Grade level: grades k-2
- II. Objectives:
  - a. To understand the process of creating Sugar Cane.
  - b. To learn how to farm and tend the Sugar Cane Crop.
  - c. To discover different machines used to process Sugar Cane.
- III. Standards:
  - a. Sunshine State Standards(2006):
    - 1) Social Studies: Time, Continuity, and Change: Standard 5: The Student understands U.S. history from 1880 to the present day.
    - 2) Social Studies: People, Places, and Environments: uses simple maps, globes, and other three-dimensional models to identify and locate places and knows areas that can be classified as regions.
- IV. Vocabulary:
  - a. Cane Grinding: This is a party (sometimes called a syrup making party), where people gather to make syrup. This provided a much needed social event with music and fun, lots of good food to eat, and a source of extra help to make the work go faster.
  - b. Syrup Making: another name for Cane Grinding.
  - c. Lever: Used to turn the gears which stir the Sugar Cane Syrup. This is found on steam powered Sugar Cane Mills.
  - d. Sweep: A sweep is a long pole that is hooked up to a mule. The mule then turns the gears on the Sugar Cane Mill, similar to a lever.
  - e. Gears: Aids in spinning and stirring the Sugar Cane Syrup.
  - f. Kettle (Shafts): Where the Sugar Cane Juice is stored and cooked.
  - g. Base: provides support for the Sugar Cane Mill.
  - h. Commercial Sugar Cane Mill: a Sugar Cane Mill that has been created by a factory, marketed, and sold by a store or catalogue.
  - i. Ratooning: the re-growing of the sugar cane roots into a cane.

### Activity 1: Sugar Can Crop

- V. Materials:
  - a. One copy of the Worksheet: Sugar Cane Crop
  - b. Construction paper
  - c. Markers
  - d. Scissors
- VI. Procedures: Pass around to the class the Worksheet: Sugar Cane Crop while explaining information about the crop (below). Then allow the class to create their own sugar cane field.
- VII. Information:



- a. Sugar Cane is a crop that grows in warm, tropical climates. The plant should be planted in early spring so that the soil is moist.
- b. The farmer needs to remove the leaves from the plant that block the sunlight from the ground (which blocks the ripening process of the plant).
- c. The longer the Sugar Cane remains in the ground the higher the sweeter the syrup.
- d. Harvesting begins in mid-late November in Florida. The top of the plant is first removed leaving the cane and the root. Cut the cane as long as possible without destroying the roots. If done properly the roots will continue to grow as a crop next year (this is called rationing).

### VIII. Sugar Cane Field:

- a. Pretending that it is spring allow your students to “plant” their own crop: give each student one piece of construction paper that has been cut in half. Have each student roll each half into a cylinder and glue (tape) the cylinder together. Then attach the two cylinders together by gluing one cylinder inside the other. Now that you have a large cylinder cut 2in. slits in the bottom of the cylinder and fold the slits outward (these are the roots of the plant). This should allow the cylinders to stand (weights cans also be used). Now give each students leaves that have been pre-cut and allow them to attach the leaves to the top of the cylinder (the leaves can be decorated by the students). Once this is completed all of the students can line their sugar cane crops up and create a sugar cane field.
- b. Harvesting: Now pretend that it is mid-late November and it is time to harvest the crop. Tell the students to tear off the leaves off the plant. And then cut the large cylinder near the base right before slits (roots). Once finished explain that the cane of the crop is the only part used to create the sugar cane syrup and that the roots are reused to create a crop of the next year.

IX. Assessment: This is a group activity and can be graded based on participation.

### X. Open-Ended Questions:

- a. Where is sugar cane grown?
- b. How long does it take to grow Sugar cane?
- c. Would you want to be a Sugar Cane farmer? Why?

### Activity 2: Worksheet Sugar Cane Map

### XI. Materials:

- a. Worksheet Sugar Cane Map
- b. Writing Utensil
- c. Crayons, Colored Pencils

XII. Procedures: Hand out worksheet: Sugar Cane Map to the class. Then give them time and help them complete the worksheet.

XIII. Assessment: Students can be graded based on completion of the worksheet.

### XIV. Open-Ended Questions:

- a. What is the climate like in the southern states?
- b. What is the weather like in Florida?
- c. In what areas does sugar cane grow?
- d. Why do you think sugar cane does not grow in the northern states?



Activity 3: Story and Drawing: Sugar Cane Mill

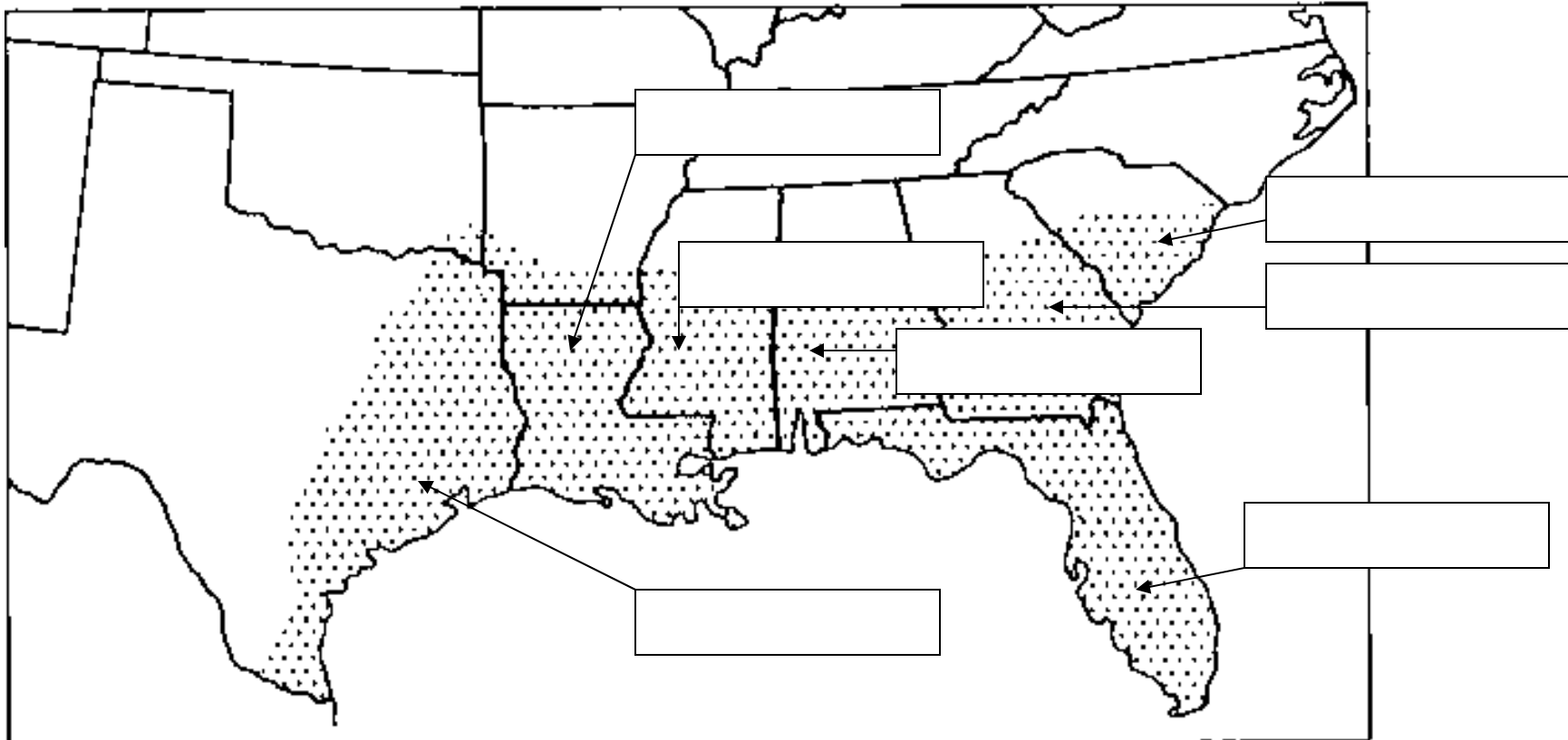
- XV. Materials:
- One sheet of paper per student
  - Crayons, colored pencils, or markers
- XVI. Procedures: Read the story (below) to the class. As you read the story have the students draw a picture of the story they are hearing.
- XVII. Story: John, a Florida farmer living in 1898 is going to grind sugar cane up in his mill.
- One morning in February John got out of bed and decided to make sugar for his family. He has a wife Gail a daughter Margaret and one son Robert. His children love to eat sweets, and Gail makes sweets for the children as often as possible. However, sugar is a limited resource during this time period and very expensive, so John makes the sugar on his own instead of buying it in a store. John begins by cutting the cane and placing it in his sugar cane mill. Although steam powered machines are easier to use, John uses a horse powered mill because steam powered machines are too expensive. He heats up the sugar cane until it is over 90 degrees. Then once he is finished he has sugar. Gail uses this sugar to make cookies, pies, and other sweets that the children enjoy to eat. Since John is one of two farmers in his community that has a sugar cane mill, some of John's neighbors do their sugar cane grinding on John's mill. Also to make some extra cash John will see his extra cane syrup to the general store. This extra money John's family uses to buy fabric, tools for the farm, and sometimes canned goods. Overall, John and his family make their own clothes and have their own farms to grow vegetables and have meat. They seldom go to the store to purchase goods.
- XVIII. Assessment: This activity can be graded based on completion of the drawing and creativity.
- XIX. Open-Ended Questions:
- What kinds of sweets do you eat?
  - How do we get sugar today?
  - Where did sugar come from in 1898?



Name: \_\_\_\_\_ Date: \_\_\_\_\_

Post-Trip Lesson Plan  
Sugar Cane Map

Instructions: Color in the area with dots. This area is where Sugar Cane grows in the United States. Then use the map below to help you label the states that grow Sugar Cane.



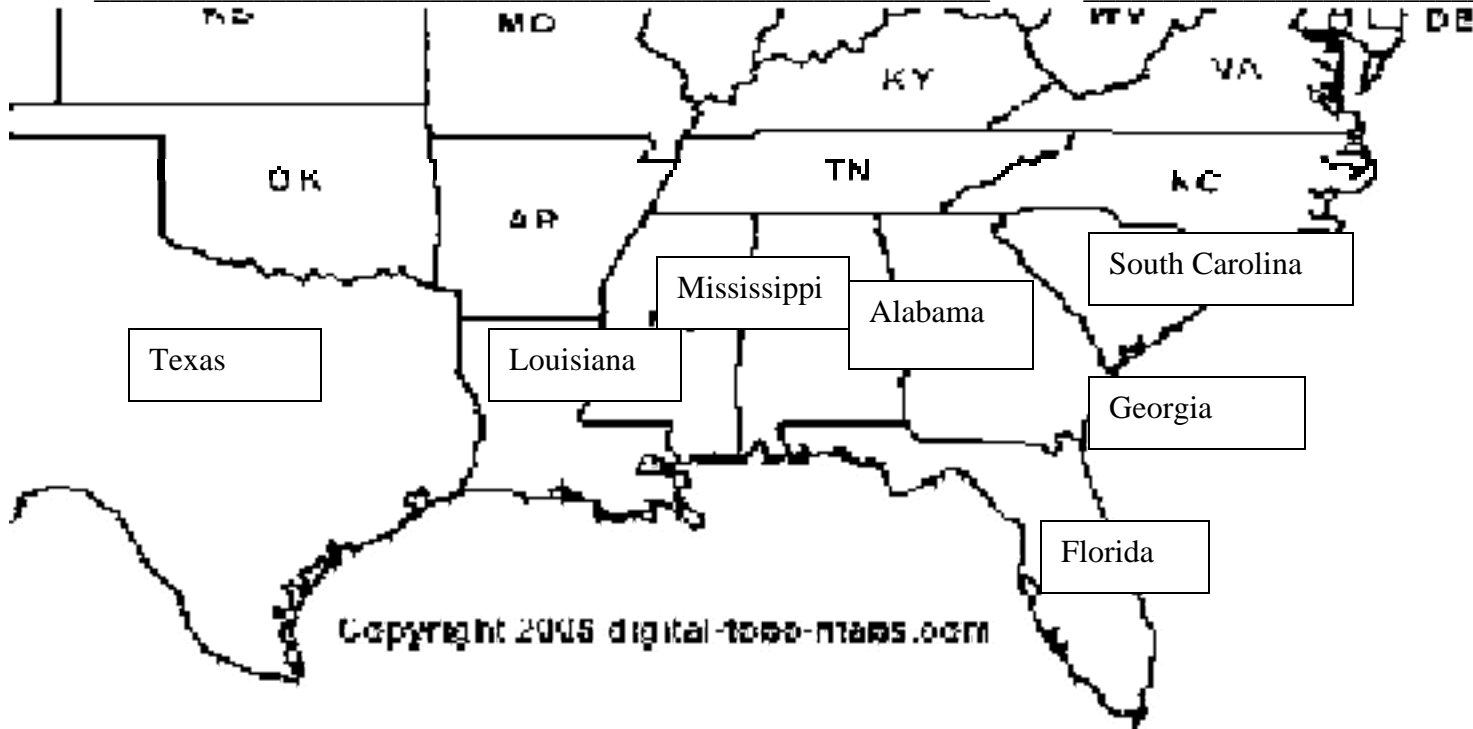




## Reliving Rural Florida's Past

Name: \_\_\_\_\_

Date: \_\_\_\_\_



### Sources:

United States Maps of Countries. Retrieved on August 28, 2008 from <http://county-map.digital-topo-maps.com/>.

United States Department of Agriculture. Agricultural Research Service ARS-61. Sugarcane Culture and Syrup Production. January 1988. 2.