A black and white photograph of four citrus fruit slices, likely grapefruit or orange, arranged in a diamond pattern. The slices are cut horizontally, showing the internal segments and the central pith. The text "Florida Citrus" is overlaid in a large, bold, serif font across the top two slices.

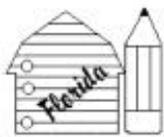
Florida Citrus

Florida Ag in the Classroom

Florida Citrus

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Florida Ag in the Classroom

Florida Citrus

Unit Overview

Unit Description: *Florida Citrus* will examine the development of oranges and their history here in Florida. Students will discover the significant role citrus plays in Florida's economy. They will trace the production of oranges from the grove to the store as fresh fruit and as juice. Students will also learn the nutritional value citrus has in their daily diets. Students will role play, becoming citrus growers and join a co-op to determine the best ways to market and sell their fruit. Students will put their math and science minds to work by solving real-world citrus problems.

Sunshine State Standards:

LA.A.1.3.1	SC.H.1.3.2
LA.A.1.3.2	SC.H.1.3.4
LA.A.1.3.4	SC.H.1.3.5
LA.A.2.3.5	MA.A.1.3.2
LA.B.2.3.1	MA.A.3.3.2
LA.B.2.3.4	MA.A.3.3.3
LA.C.2.3.1	MA.D.1.3.1
LA.C.2.3.5	SS.A.1.3.2
SC.A.1.3.1	SS.A.6.3.1
SC.A.1.3.5	SS.A.6.3.3
SC.D.1.3.2	SS.B.1.3.1
SC.D.2.3.2	SS.A.6.3.5
SC.G.2.3.2	

Grade Levels - Middle School

Subjects - Science, Social Studies, Mathematics, Language Arts, Health and Nutrition

Objectives: The students will:

1. solve real-world citrus production problems.
2. identify the origin of oranges and describe their history in Florida.
3. recognize the significance of the citrus industry to Florida.
4. identify steps of citrus production from the tree to the store.
5. identify the nutritional value of citrus.
6. develop food labels and promotional items for citrus products.
7. plan a marketing campaign for Florida citrus.
8. formulate opinions and record observations of different citrus fruits.
9. find percentages of juice production for various citrus fruits.
10. design their own experiment to solve a current citrus problem.
11. graph real-world data about citrus production.
12. read and interpret real-world graphs about citrus juice production.

Pre-Tests/Post-Tests:

Several lessons have pre- and post-tests for your utilization both before and after teaching the lesson, where appropriate.

Label It, Sell It



Brief Description: Students will learn the nutritional value citrus contributes to their daily diets, use nutritional labels and promote citrus from a nutritional perspective.

Objectives: Students will be able to:

- 1 use food labels to learn the nutritional value of citrus.
- 2 identify and describe the nutritional value citrus has in their daily diets.
- 3 develop food labels and promotional items for citrus products.

Sunshine State Standards:

- | | |
|-------------|--|
| LA.B.2.3.1 | - writes text, notes, outlines, comments and observations that demonstrate comprehension of content and experiences from a variety of media. |
| LA.C.2.3.1 | - determines main concept, supporting details, stereotypes, bias and persuasion in a non-print message. |
| LA.C.2.3.5. | - locates, organizes and interprets written information for a variety of purposes, including classroom research, collaborative decision making and performing a school or real-world task. |

Life Skills:

- 1 Decision Making and Problem Solving Skills

- 2 Acquiring, Analyzing, and Using Information
- 3 Creative Thinking Skills

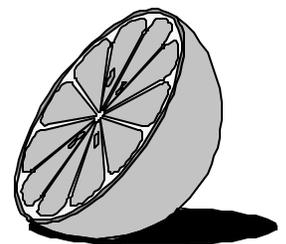
Materials:

- food labels from citrus juice (one per group)
- citrus juice containers (various sizes, shapes and types of juice)
- art supplies (construction and plain paper, markers, glue, scissors, etc...) or computers with graphics capable software
- overhead projector (if transparency sheet is used)
- transparency of *Citrus Labels*
- copies of *Label Talk* activity sheet for each student
- copies of *Promoting Your Juice* activity sheet (one for each co-op)
- copies of *Citrus Commercial Outline* (one for each co-op)
- cassette player with record button
- blank cassette tapes

Time: four, 45 minute class periods
a class period for group presentations
a homework assignment

Preparation:

- Gather food labels from various citrus juices.
- Collect citrus juice containers of various sizes, shapes and types of juice and place them around the room.
- Gather art supplies for students to create their own juice container and label.
- Make a transparency of citrus labels (from master provided if you do not



have actual *Florida Sunshine Tree* labels.)

- Make copies of *Label Talk, Promoting Your Juice* activity sheets for each student and *Citrus Commercial Outline* for each co-op.

Vocabulary: Have the students identify unfamiliar terms as they arise.

Background:

Nutrients

Other than its sweet, tangy taste, why is citrus so important for consumers? Citrus fruits owe their sweet flavor to their natural sugars, which are a simple form of *carbohydrate*, and their tanginess to natural acids. Citrus fruits supply several nutrients that the body needs: *Vitamin C* (also called ascorbic acid), which helps the body resist infection, heal wounds, absorb iron from other foods, and form bones, tendons and ligaments; *potassium*, which helps maintain water balance in the body's cells; and *fiber*, which provides bulk to the diet, and so helps the body digest food. Vitamin C also may help reduce the risk for some types of cancer. Citrus fruits are fat-free, cholesterol-free, and sodium-free.

Health experts advise eating "five a day" -- at least five daily servings of vegetables and fruits, including citrus. One serving of citrus equals $\frac{3}{4}$ cup of juice, 1 medium orange or tangerine, $\frac{1}{2}$ grapefruit or $\frac{1}{2}$ cup of cut-up or sliced fruit.

Product Labels

On food labels, the "Fresh From

Florida symbols tells consumers that citrus juice meets Florida's high standards. The "Florida Sunshine Tree" symbol says the product is 100 percent Florida grown. "Florida's Seal of Approval" indicates the product meets the state's strict purity and quality guidelines, but may not be made entirely of juice from Florida oranges. At least 70 percent of the juice must come from Florida to wear this label. Both symbols guarantee the quality of the juice.



Consumers can tell just how nutritious citrus products are by reading the Nutrition Facts panel on food labels. The label shows that one serving of orange or grapefruit juice supplies more than 100 percent of the Daily Value for Vitamin C, which is the amount most people need for a day. This same information may appear where fresh citrus products are sold. Also, consumers might look for "100% Juice," which means that the product is juice only -- with no added sweeteners or preservatives. Remember that "100% Juice" does not necessarily mean 100 percent orange juice.

Introduction:

1. Review what happened in lesson #2, **From Grove to You** by saying:

As a co-op you have learned how to pick, package and process your fruit to be sent to the store, restaurant, or school. That might be all you have to do to get it on the store shelf, but if you want to get it to the consumer, which is your ultimate goal, you must go one step further.

Can anyone guess what that step might be? (*Promotion!*)

2. Explain that citrus products need to be promoted so consumers buy them. Individuals who work in the advertising and public relations part of the citrus industry may work directly for you, the co-op, or may be hired separately. Thus far, your co-op has produced “100% Juice” that meets Florida’s high standards. Now all you need is an appealing and informative juice label and some promotion. It’s time to get to work and sell your juice!

Activity One:

1. Instruct students to get with the co-op group they formed during lesson #2, **From Grove to You**. Pass out food labels from various types of citrus juice.
2. Ask students what the food label tells them about the juice inside the container. (*Answers should include: brand name, amount in the container, nutrition information per serving, name and address of the manufacturer or processor,*

made from Florida fruit, 100% juice, others.)

3. Briefly point out and discuss the following label features: (Note: If you do not have these labels from a carton or citrus product, use the citrus label transparency.)
 - A. **The Florida Sunshine Tree** is the Florida Grower's Symbol. It means that the juice contains only Florida grown citrus.



- B. **100% Pure or 100% Juice** means the product is juice only, with no added sweeteners or preservatives.



- C. Nutrition Facts panel tells how much vitamin C one serving of juice supplies.

Nutrition Facts	
Serving Size 8 fl oz (240 mL)	
Servings Per Container 8	
Amount Per Serving	
Calories 120	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Sodium 0mg	0%
Potassium 440mg	12%
Total Carbohydrate 29g	10%
Sugars 25g	
Protein 1g	
Vitamin C 100%	Calcium 2%
Thiamin 10%	Folate 10%
Phosphorus 4%	Magnesium 6%
Copper 2%	
<small>Not a significant source of saturated fat, cholesterol, dietary fiber, vitamin A and iron.</small>	
<small>* Percent Daily Values are based on a 2,000 calorie diet.</small>	

D. ***Fresh from Florida*** symbol helps consumers identify that the product has been monitored for purity and meets Florida's high standards. Juice may be a blend of Florida and other U.S. grown citrus or imported citrus or concentrate. To wear the seal, it must contain at least 70% Florida grown citrus.



4. Before students create their own label, have them practice reading labels. Hand out the ***Label Talk*** activity sheet to each student. Instruct students to complete the ***Label Talk*** activity sheet by looking at one of the citrus juice containers that you have previously placed around the room. Ask:

What are some of the nutrients you found in the different citrus juices? (*Vitamin C, potassium, and carbohydrates*)

Do you know how many servings of fruit the Food Guide Pyramid suggests we need daily? (*2-4 servings*)

$\frac{3}{4}$ of a cup of fruit juice equals one serving. How many 8-ounce glasses of fruit juice would you need to drink to obtain 4 servings

of fruit? (Hint: 8 oz. = 1 cup) (*3 cups*)

5. As a homework assignment, have students do the following grocery store research:
 - A. List all the varieties of fresh citrus they see. For example, Valencia oranges, Red grapefruit, tangelos and tangerines.
 - B. Using the ingredient lists on food labels, find five foods using citrus products, such as orange marmalade -- not artificial flavorings.
 - C. Find five products with the symbol: "Florida's Sunshine Tree."

Activity Two:

1. Tell students that it is now their turn to promote their product.

As a co-op it is their job to develop the food label for their juice container. Have them pretend they want to sell juice to people their own age. Remind them that this is not only to promote the product but also to meet the federal law requiring nutritional labeling. Ask them these questions:

How could you promote juice to students at our school?

What would make them buy it?

What would make you buy it?

2. Hand out art supplies and instruct each co-op to come up with a brand

name for their juice or provide access to computers with graphics and word processing capability.

3. Hand out **Promoting Your Juice** activity sheet for each co-op to use as a guide. Have co-ops create a food label with all the necessary parts: product name, amount in the container, name and address of the processor (use the co-op name), and the Nutrition Facts panel. Encourage co-ops to use creative art on the label and a catchy product name to attract their youth-aged customers. They may refer to an actual juice label for nutrition information. (Optional: students may use one of the containers from around the room and cover it with paper to create a new look and label.)
4. Once each co-op has completed their label, instruct them to create a one-page newspaper or magazine advertisement designed strictly as promotion for their juice.

Activity Three:

1. Hand out the **Commercial Outline**. Before they begin, ask:

What are some citrus advertisements you have recently seen in a magazine or on television?

What age group did these advertisements target?

Can you think of any persuasion techniques used?

How do advertisements influence the agricultural industry?

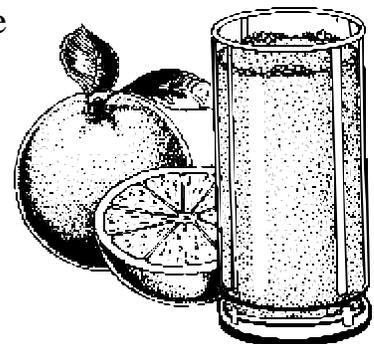
Can you think of any other new agricultural product advertisement that targets young people? (TG Lee Chug Jug) Why does it make you want to buy the product?

2. Have each co-op create an infomercial of one to three minutes, telling young consumers about the juice. Explain that an infomercial is like a radio or television commercial that does more than get someone to buy; it also offers information.

Optional: supply students with a cassette player to record their commercials. Encourage students to add background music or sounds.

Activity Four:

1. In the next class period, have each co-op present its juice label, advertisement and infomercial to the class.
2. As co-ops present infomercial; have students write down and then discuss the main concept, supporting details and any persuasion techniques used to promote the citrus product.



Variations or Alternatives:

1. Because citrus is such an important industry in Florida it frequently makes the news. Have students bring in articles about citrus from all sections of the newspaper: agriculture news, food pages, local news, want ads for jobs in the citrus industry, others. Talk about them in class, and post them in your own "Citrus in the News Corner."
2. Instruct students to explore the web or look through cookbooks at home to create a list of citrus recipes.
3. Create a school bulletin board informing everyone about the Florida Citrus Industry.

Evaluation Options:

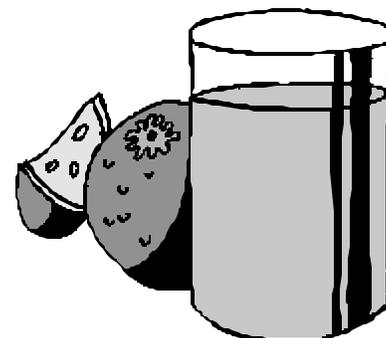
1. Evaluate students as a group on their presentations. Rank the presentations, labels, advertisements, and infomercials for eye appeal, likeliness to buy and why, intent of infomercial, if they received enough information, likeliness to remember the information.
2. Have the co-ops evaluate the presentations and materials of other co-ops. Ask them to rank the presentations, labels, advertisements, and infomercials for eye appeal, likeliness to buy and why, intent of infomercial, if they received enough information, likeliness to remember the information.

3. Assign each student to bring in a copy of an ad they like and have them write a paragraph or two describing why they liked it.
4. Have each student create their own Florida product logo to identify and market Florida products.

Resources:

1. The web site "Marketing Florida's Agriculture" may provide some additional insight. It can be found on the Internet at: <http://www.fl-ag.com> or have the students check with the websites of commercial companies that process and market citrus juices.
2. The Florida Citrus Web site can be found at: <http://www.floridajuice.com>.

Notes:

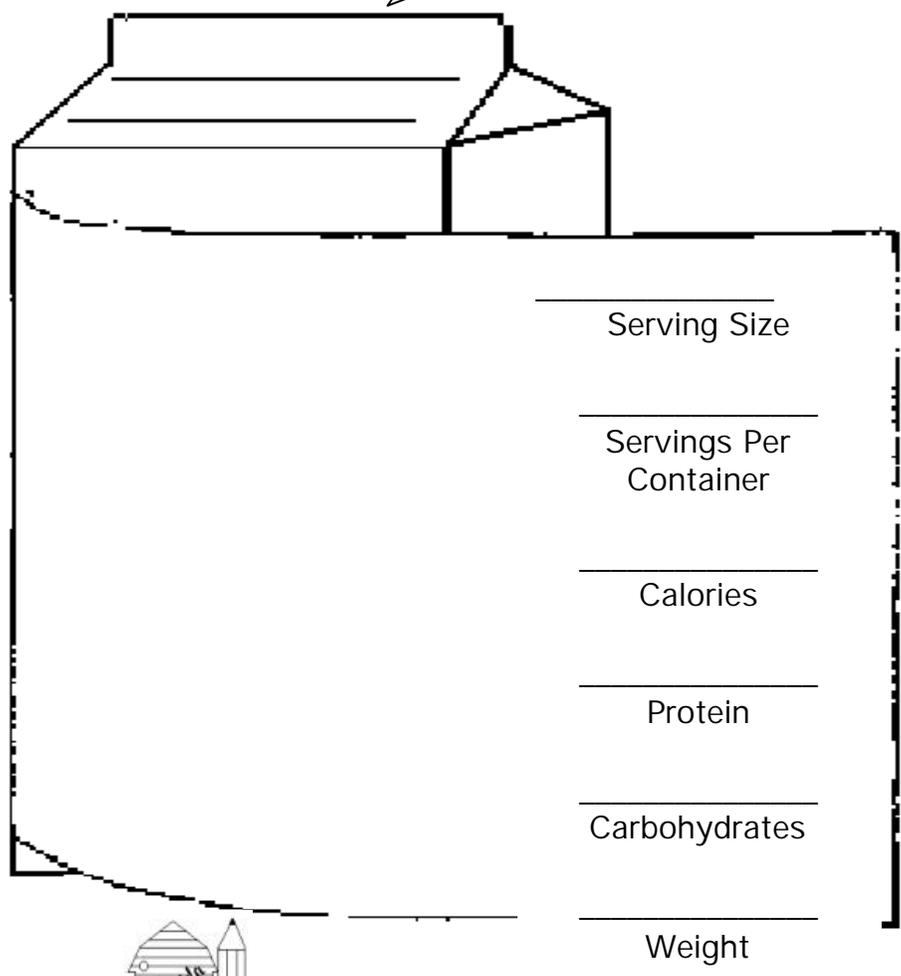


Name _____

Designing a Nutritional Label

- Look at the label on a container of citrus juice.
- Indicate the brand, logo and type of juice on the label below.
- Fill in the blanks. (Write what's on the juice label!)
- Circle the nutrients found in your citrus juice.

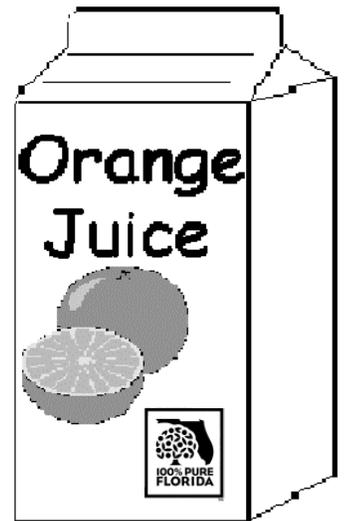
Vitamin A Vitamin C Thiamine Riboflavin Niacin Calcium Iron



Name _____

Promoting Your Juice

Using art supplies, create a container for your juice. On your container design a label that is attractive and catchy - one that will sell your juice! Remember to include the following on your label:



Product Name

Amount in Container

Name of Processor (Co-op name)

Address of Processor (be creative)

Nutritional Facts per Serving

Florida Ag in the Classroom



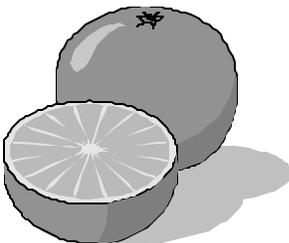
Cooperative Name _____

Citrus Commercial Outline



The commercial should last at least 1 minute but not more than 3 minutes.

1. Focus topic:
2. Plan your message.
What is the main message (one sentence)?
3. Write down a simplified script of what you and your group members will say.
(On back)
4. Decide who will speak. There can be one voice or several, talking, singing a song, reciting a poem, having a conversation, sound effects, etc.
5. Give it a dry run. Try to time it to last about 1 -3 minutes. Edit your script if it lasts longer; add words or speak slower if it is too short.
6. Practice several times. Be sure to speak clearly. There is no need to rush.
7. Record the announcements, allowing a pause between each one. Begin each with, "This is (name) of the (Citrus co-op name) for Florida orange juice."



Florida Ag in the Classroom



Citrus Labels



“Florida Grower's Symbol” - This label indicates that the product is 100 percent Florida grown.

“Florida's Seal of Approval” - This label means that the product is 100% pure juice.



“Fresh from Florida”- This label is available for all fresh agricultural crops grown in Florida. The product has been monitored for purity, meets Florida’s high standards, and must contain at least 70% Florida grown citrus.



Nutrition Facts	
Serving Size 8 fl oz (240 mL)	
Servings Per Container 8	
Amount Per Serving	
Calories 120	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Sodium 0mg	0%
Potassium 440mg	12%
Total Carbohydrate 29g	10%
Sugars 25g	
Protein 1g	
Vitamin C 100%	Calcium 2%
Thiamin 10%	Folate 10%
Phosphorus 4%	Magnesium 6%
Copper 2%	
Not a significant source of saturated fat, cholesterol, dietary fiber, vitamin A and iron.	
* Percent Daily Values are based on a 2,000 calorie diet.	

The Nutrition Facts label tells the nutritional value of citrus products.



Florida Ag in the Classroom