



January: 9-12

Smart Food Choices

COLLARDS



South Carolina

Farm to School Lessons

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Overview

Welcome to the South Carolina Farm to School January Nutrition Education Lesson. This lesson contains information & hands on activities for teaching grades 9-12 about the benefits of Smart Food Choices. Our goal for this lesson is to reinforce with children the benefits of eating fresh fruits & vegetables and also to educate on the importance of making smart food choices when eating processed foods.

In order to achieve this goal, students will review the benefits of whole foods and explore "Small Size-It" when eating processed foods. Students will learn about making smart food choices when choosing their snacks or meal items. This lesson will reinforce MyPlate, as well as choosing whole foods versus processed foods. We will celebrate South Carolina's State Vegetable, Collards, as our January Palmetto Pick of the Month. Students are encouraged to share what they have learned with their families & suggest their families buy & eat more whole foods while making smarter food choices.

These lessons are designed to be delivered over a four week period, noting that introduction & activities will be supplemental to existing curriculum.

Estimated Total time: 120-140 mins

Teacher Background

In this lesson, students learn about why it is important to limit overly processed foods that contain little or no nutrients and often have high amounts of added fat and sugar. The recommendation for empty calories is no more than 150 calories per day for this age group and students will learn to translate that to teaspoons of sugar and fat.

In today's world, telling kids what not to eat is a very necessary reality. The food industry aggressively markets unhealthful foods to kids yet rarely prompts children to eat whole, healthful meals. These marketing efforts are pervasive, and include: television advertising, advergaming web sites, cartoon characters on packages, and even toys included with nutritionally poor fast-food meals. They help kids cultivate a taste for white bread, french fries, fatty meat, fatty cheese, and sweetened drinks. Most of the foods marketed to kids are mediocre fast foods, sugary breakfast cereals, and candies. Many of them are based on white flour, sugar, fat, and salt, plus a sprinkling of artificial colorings and flavorings.

Additionally, ordinary sugar and high-fructose corn syrup make up one-sixth of the average American's calorie intake. Half of all added sugars come to us in the form of "liquid candy": soft drinks, fruit drinks, sports drinks, and iced teas. And it is those sugary drinks that pose the biggest risk of weight gain, because they don't seem to curb appetite as much as solid foods do.

See this lesson as a way to give your students the antidote to food industry marketing. They learn that our bodies cannot handle excessive sugar and fat on a regular basis and see first-hand how much fat and sugar are in common foods. We believe the way to teach students to become people who want to make healthful choices for themselves, despite the obstacles, is for them to believe that it has personal benefits.¹

Nutrition Vocabulary:

Whole/Unprocessed Foods Completely unprocessed foods are eaten in their raw, natural state. An example of a completely unprocessed food would be a raw carrot. Minimal processing makes some foods more convenient to eat. Examples of minimally processed foods would be cleaned fish and butchered meat, carrots sliced for easy consumption, or food that has been cooked. As the amount of processing increases, the food moves farther from its raw, natural state, often changing its taste, texture and nutritional value; however, not all raw foods are completely unprocessed.

Fresh Vegetables

Vegetables in their raw, natural state are unprocessed. Fresh whole vegetables are also healthy unprocessed foods you should include in your diet. Like fruits, eating more vegetables lowers your risk of heart disease, diabetes and some cancers, and also helps with weight management. Fresh vegetables contain high amounts of potassium, folate, vitamin C, vitamin E and fiber. Eating more natural sources of potassium helps to lower blood pressure, according to the American Heart Association. Aim for 2 and 1/2 cups of whole vegetables everyday. Healthy choices include spinach, broccoli, tomatoes, sweet potatoes, cauliflower, kale, sweet potatoes, carrots, corn, beets, artichokes and asparagus.

Eating more *Whole/Unprocessed foods* can provide your body with the nutrients it needs to stay healthy. Unprocessed foods have not undergone any chemical changes and are in their most natural form.

Fresh Fruits

Whole fruits are a healthy unprocessed food. As a nutrient-dense food, fruits are low in calories and high in vitamins A and C, potassium and fiber. Eating more fruits decreases your risk of heart disease, diabetes and some cancers, according to the U.S. Department of Agriculture. Including more whole fruits in your diet can also help you manage your weight because fruits' fiber content helps you feel full longer. Healthy whole fruits to add to your diet include strawberries, blueberries, cantaloupe, watermelon, apples, oranges, bananas, grapes, plums, peaches and cherries.

Processed Foods

Processed foods have been altered from their natural state for safety reasons and for convenience. The methods used for processing foods include canning, freezing, refrigeration, dehydration and aseptic processing.

We tend to think of processed foods as bad, but it turns out that some processed foods are not bad for your health at all. For example, milk would be considered a processed food because it's pasteurized to kill bacteria and homogenized to keep fats from separating. Some people prefer raw milk, but it can lead to food-borne illness, so we're happy to consume the healthy "processed" milk we find in our grocery stores.

Another example of good food processing is frozen vegetables. Freezing vegetables preserves vitamins and minerals and makes them convenient to cook and eat all year around. Fruit and vegetable juice is also an example of a healthy processed food. In fact, some orange juice is fortified with calcium to make it even more nutritious. Oatmeal, frozen fish, frozen berries and 100% whole-grain bread are also processed.

Processed foods that may be bad for your diet:

- canned foods with large amounts of sodium or fat
- breads and pastas made with refined white flour instead of whole grains
- packaged high-calorie snack foods such as chips and candies
- frozen fish sticks and frozen dinners that are high in sodium
- packaged cakes and cookies
- boxed meal mixes that are high in fat and sodium
- sugary breakfast cereals
- processed meats

¹ Adapted from Food Day Curriculum

Lesson Checklist



F2S Aim: Explore that healthful eating includes smart, tasty and delicious food choices.

F2S Objectives

Students will be able to:

- * Explain why is important to not eat excessive fat, sugar and salt.
- * Explore how much fat and sugar are in commonly consumed snacks and drinks.
- * Apply what they have learned to their own food choices.
- * Taste the Palmetto Pick of the Month.



Materials:

- * Overly Processed Foods (Appendix A)
- * Fact Sheet (Appendix B)
- * Small Size It Action Plan (Appendix C)
- * Nutrition Websites (Appendix D)
- * Farm to School Flats Video (sent electronically)
- * PPM Activity: PPM Activity: Crock Pot, Collard Greens, carrot, garlic salt, balsamic vinegar, low-sodium, fat-free chicken broth, pepper
- * Gardening Activity: Seedling Trays or Flats, Seeds, Potting Soil, Water
- * Gardening journal.



National Health Education Standards

1.12.5	1.12.7	2.12.2	2.12.4	2.12.5
2.12.7	2.12.8	2.12.10	3.12.1	3.12.2
3.12.5	4.12.1	4.12.2	4.12.4	5.12.1
5.12.2	5.12.4	5.12.6	5.12.7	6.12.1
6.12.2	6.12.3	7.12.1	7.12.2	7.12.3
8.12.1	8.12.2	8.12.3	8.12.4	

SC State Standards

E2-2.1	Compare/contrast these within and across informational texts.
E2-2.2	Compare/contrast information within and across texts to draw conclusions and make inferences.
E2-2.3	Analyze informational texts for author bias (including word choice, the exclusion and inclusion of particular information, and unsupported opinions).
E2-2.4	Create responses to informational texts through a variety of methods (for example, drawings, written works, oral and auditory presentations, discussions, and media productions).
E2-2.6	Analyze information from graphic features (for example, charts and graphs) in informational texts .
E2-2.7	Analyze propaganda techniques in informational texts.
E2-4.1	Organize written works using prewriting techniques, discussions, graphic organizers, models, and outlines.
E2-4.2	Use complete sentences in a variety of types (including simple, compound, complex, and compound-complex).
E2-4.4	Use grammatical conventions of written Standard American English, including <ul style="list-style-type: none"> • subject-verb agreement, • pronoun-antecedent agreement, • agreement of nouns and their modifiers, • verb formation, • pronoun case, • formation of comparative and superlative adjectives and adverbs, and • idiomatic usage.
E2-4.5	Revise writing to improve clarity, tone, voice, content, and the development of ideas.
E2-4.6	Edit written pieces for the correct use of Standard American English, including the reinforcement of conventions previously taught.
E2-5.4	Create persuasive pieces (for example, editorials, essays, speeches, or reports) that develop a clearly stated thesis and use support (for example, facts, statistics, and first-hand accounts).
E2-6.2	Use direct quotations, paraphrasing, or summaries to incorporate into written, oral, auditory, or visual works the information gathered from a variety of research sources.
E2-6.3	Use a standardized system of documentation (including a list of sources with full publication information and the use of in-text citations) to properly credit the work of others.
E2-6.4	Use vocabulary (including Standard American English) that is appropriate for the particular audience or purpose.

E2-6.5	Create written works, oral and auditory presentations, and visual presentations that are designed for a specific audience and purpose.
E2-6.6	Select appropriate graphics, in print or electronic form, to support written works, oral presentations, and visual presentations.
E2-6.7	Use a variety of print and electronic reference materials.
E2-6.8	Design and carry out research projects by selecting a topic, constructing inquiry questions, accessing resources, evaluating credibility, and organizing information.

Lesson Essential Components

Lessons profile	Page(s)	Yes	No	Notes
Palmetto Pick of the Month	9	★		Tasting activities with collards
Health Education Standards	5	★		
SC-Cross Curricular Standards	6-7	★		
SC-F2S Behavioral Goals	9-11	★		
Cooking Activities	10	★		
Tasting Activities	10	★		
Physical Activity	9-11	★		
Food Safety	10	★		
School Food Garden	10-11	★		
Student to Farmer Connections (i.e. field trips, talks)			★	
Student to Chef Connections			★	
Farm to Cafeteria			★	
Provision of scientific knowledge/rationale	9-11	★		
Risks and benefits of healthy behaviors	9-11	★		
Obstacles, Barriers & Solutions	10-11	★		Class Challenge
Family involvement and other supports		★		Family Activity Letter
Set goals and monitor progress	10	★		Class Challenge
Other hands on activities:	9-11	★		Team Activities, Reports

Let's Learn!

Whole Foods

Estimated Time: 15-20 mins

1. Review with students that in previous lessons we learned the benefits of whole, healthy foods in our daily diet. In this lesson, we will learn the reality of sugars and fats in common processed foods.
2. This lesson focuses on the foods we want to eat less of. That is, overly processed foods that have been significantly changed from how they exist in nature such as soda & other sweetened drinks, chips, candy, and highly processed packaged snacks. When these foods are changed from their whole state, the nutrients that came in them are often removed and sugar, fat, and salt are added. Although we all like the taste of these additives, when we have too much of them, our bodies cannot be their best and we are at risk of getting diseases as we get older. We can try to choose healthier options of processed foods that may have less fat, sugar, and salt in them, but the most sure way is to have these foods once-in-a-while and when we do, to remember the power of “small-sizing-it.”
3. Choosing portion size for foods that are overly processed and high in fat and sugar is often hard for students. Display **Overly Processed Foods** (Appendix A) and discuss with students the portion sizes.

- Did students realize the difference in soda sizes through the years?
 - The 6.5 ounce bottle of soda has 5 teaspoons of sugar and uses about half of the 150 empty calories recommended for students.
 - The 12 ounce can of soda has 9 teaspoons of sugar and uses all of the 150 empty calories recommended.
 - The 20 ounce bottle has 15.5 teaspoons of sugar and way more than the 150 calories recommended.

- Does a 1 ounce bag of chips seem like a small portion size to the students?
 - This uses all 150 empty calories recommended.
- Do they consider two Reese Cups to be a medium size portion?
 - This uses all 150 empty calories recommended.

Note: 4 grams of sugar equals 1 teaspoon, 5 grams of fat equals 1 teaspoon. If your students have overly processed snacks they often eat, calculate how many teaspoons of sugar and fat are in these snacks. Be sure to look at the food label carefully to see how many servings are in the packages. Many “single-size” packages have more than one serving.

Activity

Investigative Report

Estimated Time: 75-90 mins

1. Students will complete steps to create a special investigative report on the importance of whole foods and the loss of nutrients in processed foods to air on the School News Channel. This is designed as a class activity with each student having a specific role in producing the report (i.e. research team, writers, reporters, etc). However, it can be adapted to be completed in groups. Please check with your Media person to find the amount of time the students will have to air their report.
 - *If your school does not have a morning news show, have the students create an investigative report bulletin board that is available for all students to see (for example in the cafeteria or commons area of the school).
2. Each group should consider the following when researching, writing, and designing their investigative report:
 - The amount of sugars and fats are in common processed foods. The students should decide which foods they want to feature in their report. Depending on time allowed, students should try to feature two to three foods. Appendix B has some options with the number of sugars and fats

in each foods. Students should not feel they are limited to these foods and can choose foods that are common in their school.

- The “normal” portion sizes that are consumed with the chosen foods.
- The healthy or “small size” portion that should be consumed.
- The reason it is important to eat healthy, small size portions of empty calories.
- End the news report by challenging the students and faculty to think about “small sizing it” when eating high sugar or high fat processed foods in their daily diet.
 - You may also consider having a class challenge for small sizing it. You can use the **Small Size It Action Plan** (Appendix C) to monitor the challenge.

*Appendix D has websites that will be helpful for the students when locating nutrition and serving size information for the report.

Note: This is designed to be completed over two-three weeks with the final report ready to air in week four.

★ Palmetto Pick Activity

Fresh Collard Greens

Estimated Time: 15 mins

1. Have students wash their hands (with soap & warm water for 20 seconds) & reinforce that it is important. Show the students that you have washed the collard greens before beginning.
2. Divide students in groups of three to four. Give each group a couple of collard leaves and ask them to tear it into smaller pieces. Either have them tear the leaves on a paper towel or in a small bowl.
3. Have one person from each group pour the collard greens into the crock pot. Add remaining ingredients. Cook on high for approximately two hours or on low for approximately four hours or until collard greens are tender.
4. Serve a 1oz portion for each student to taste.

Ingredients:

Fresh bunch of collard greens (about 1-2 pounds)
1 carrot, chopped
1/4 tsp garlic powder
2-3 tbsp balsamic vinegar
1.5 cups low-sodium, fat-free chicken broth
1/4 tsp pepper

Note: Remember, that you can use the Farm to School grant funds to purchase the F&V required for this lesson. Remind your students to look for the Palmetto Pick of the Month in their school lunches to learn other ways of preparing & serving collard greens.

★ Gardening Activity

How to Start Growing

Estimated Time: 15 mins

Materials Needed:

Seedling Tray or Flat
Seeds
Potting Soil
Water

Note: Decide as a class, school, grade level, etc what you want to plant in your seedling trays for your Spring Garden. Keep in mind how Farm to School is implemented at your school so that each class/grade level do not plant the same type of seeds. If you need suggestions for items to plant in your garden, please contact your Regional Coordinators.

1. In preparation for planting your Spring Garden, this month’s gardening activity will teach students how to prepare seedling trays or flats.
2. View the **Farm to School Flats** video (1:39). (sent electronically)
3. After viewing the video, have the class plant seedling trays.
4. Have them record the experience in their garden journals. They should note the types of seeds planted. They can also:

- Make predictions on how long the seeds will take to sprout.
- Record a timeline for the seed (seedling tray to ground, ground to harvest, etc.) and write notes/progress about the plant status throughout the timeline.

Evaluation

Formal Assessment:

1. Review **Small Size It Action Plan**.
2. Review Gardening Journal.

Informal Assessment: Observe participation in lesson activities. Complete survey at end of month (survey will be sent electronically).

Resources



Books:

The Omnivore's Dilemma: The Secrets Behind What You Eat, Young Reader's Edition. By Michael Pollan
ISBN-13: 978-0803735002

Lesson 3: Not Too Much

— Cards —

Overly Processed Foods



This thick glass bottle holds **6.5 ounces of soda** and was the primary way soda was sold from 1915 until the 1960s.



This aluminum can holds **12 ounces of soda**, and was introduced in the 1960s, and increased the portion size of soda.



This plastic bottle holds **20 ounces of soda**, and was introduced in 1993. In the 1990s, this became a widely used container, about three times as large as the original bottle.



This **1 ounce** bag of chips is a small portion.



These **two** peanut butter cups are a medium portion.

Appendix B

Sugars	Fruit Punch or Sweet Tea: 20 oz = 15.5 tsp
	Flavored Water or Sport Drink: 20 oz = 8 tsp
	Soda: 20 oz = 15.5 tsp
Fats	Potato Chips: 1 oz = 2 tsp
	Potato Chips: 2 oz = 4 tsp
	Potato Chips: 7 oz = 15 tsp
Sugars & Fats	One Peanut Butter cup: 1.5 tsp fat & 3 tsp sugar
	Two Peanut Butter cups: 2.5 tsp fat & 5 tsp sugar

Lesson 3: Not Too Much

Small-Size-It Action Plan

— Activity Sheet —

Name	Date
------	------

You have just learned all about why it is important to not eat too much overly processed foods and not eat more than the recommended amount of empty calories.

On this sheet you will make an action plan to small-size-it when you do have overly processed foods. Remember you can also have whole foods instead of overly processed foods. When we eat whole food and small-size-it with overly processed foods, we are taking care of our own health and the health of the earth.

Sample:

My Action Plan:

The overly processed food I am going to eat smaller sizes of is packaged cupcakes.

The portion size I usually have is 3 cupcakes,

To small-size-it, I am going to reduce my portion size to 1 cupcake.

Use the table below to keep track of each time you small-size it.

Date	Day of week	I small-sized it!	Describe what made it work
10/27	Thurs	✓	I split a three-pack with two friends.
11/1	Tues	✓	I found a one-pack at the store by school.
11/3	Thurs	✓	I split the pack with friends again.
11/4	Fri	✓	I bought the one-pack.
11/7	Mon	✓	I like eating one cupcake, I feel less full.
11/9	Wed	✓	My friends only eat 1 cupcake now too.

My Action Plan:

The overly processed food I am going to eat smaller sizes of is _____.

The portion size I usually have is _____,

To small-size-it, I am going to reduce my portion size to _____.

Use the table below to keep track of each time you small-size-it.

Date	Day of week	I small-sized it!	Describe what made it work

Appendix D

Websites that will be helpful in searching nutrition information for report:

USDA:

http://www.usda.gov/wps/portal/usda/usdahome?navtype=SU&navid=FOOD_NUTRITION

American Dietetic Association:

<http://www.eatright.org/>

MyPlate:

<http://www.choosemyplate.gov/>

Food Labeling (FDA):

<http://www.fda.gov/Food/LabelingNutrition/default.htm>

Clemson Extension:

http://www.clemson.edu/extension/food_nutrition/