



January: 3-5

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 3-5 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: 65 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 unhealthy foods to kids yet rarely prompts children to eat whole, healthy meals. These marketing efforts are pervasive, and include: television advertising, advertising 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 that the way to have students become people who want to make healthy 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:

- * Search Kit (Appendix A): brown paper bags, teaspoon measuring spoon, sugar in small bowls, clear plastic cups, small card or paper with food items listed, optional: play-dough
- * Small Size-It Action Plan (Appendix B)
- * 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
- * Farm to School Flats Video (sent electronically)
- * Gardening Journal



National Health Education Standards

1.5.1	1.5.3	1.5.4	2.5.4	2.5.5
3.5.1	3.5.2	4.5.1	4.5.2	5.5.1
5.5.3	5.5.4	5.5.5	5.5.6	6.5.1
6.5.2	7.5.2	7.5.3	8.5.1	8.5.2

SC State Standards

Math 4-3.4	Translate among letters, symbols, and words to represent quantities in simple mathematical expressions or equations.
Math 4-3.6	Illustrate situations that show change over time as either increasing, decreasing or varying.
Science 4-1.1	Classify observations as either quantitative or qualitative.
Science 4-1.3	Summarize the characteristics of a simple scientific investigation that represent a fair test (including a question that identifies the problem, a prediction that indicates a possible outcome, a process that tests one manipulated variable at a time, and results that are communicated and explained).
Science 4-1.4	Distinguish among observations, predictions, and inferences.
Science 4-1.6	Construct and interpret diagrams, tables, and graphs made from recorded measurements and observations.
ELA 4-2.1	Summarize evidence that supports the central idea of a given informational text.
ELA 4-2.6	Use graphic features (including illustrations, graphs, charts, maps, diagrams, and graphic organizers) as sources of information.

Lesson Essential Components

Lessons profile	Page(s)	Yes	No	Notes
Palmetto Pick of the Month	9	★		Tasting activities with collards
Health Education Standards	8-9	★		
SC-Cross Curricular Standards	8-9	★		
SC-F2S Behavioral Goals	8-9	★		
Cooking Activities	9	★		
Tasting Activities	9	★		
Physical Activity	8	★		
Food Safety	9	★		
School Food Garden	9	★		
Student to Farmer Connections (i.e. field trips, talks)			★	
Student to Chef Connections			★	
Farm to Cafeteria			★	
Provision of scientific knowledge/rationale	8-9	★		
Risks and benefits of healthy behaviors	8-9	★		
Obstacles, Barriers & Solutions	9	★		
Family involvement and other supports		★		Family Activity Sheet
Set goals and monitor progress	9	★		
Other hands on activities:	8-9	★		Team Activities, Presentations

Let's Learn

What is a Whole Food?

Estimated Time: 5 mins

1. Discuss as a class that in previous lessons, the main focus has been about WHAT TO EAT: whole foods from plants and animals with a focus on having mostly South Carolina fruits and vegetables.
2. Ask if anyone knows what a "Whole Food" is.
3. Explain that whole is being in the form that nature created it. A whole food looks similar to how it would look in nature.
4. A *whole food* is usually a healthy food that doesn't have all the additives, fat and sugar added. Whole foods also do not have nutrients taken away from its original state.

Activity!

Is it Whole or Processed?

Estimated Time: 10 min

1. Line up an apple, apple sauce and apple PopTart on the table. Hold each item up for the group to see.
2. Let's start by comparing three foods: an apple, applesauce, and an apple PopTart.
3. Which do you think is the healthiest? Why? (Whole apple) Be sure to say that the whole apple has more nutrients, less additives, less added fat, sugar, and sodium.
4. Out of these three foods, which is the most whole? (Apple) Which is the least whole? (Apple Pop Tart) Why?
5. Ask the students what the definition of a processed food is. A Processed food is altering the food from the form it is found in nature.
6. Have students look at applesauce. You can hardly tell that these apples were once growing on a tree. Right? Can you see that applesauce is in between these two products in terms of how processed it is? It may not look as much like an apple, but applesauce has just been chopped into fine pieces from a whole apple. It still tastes like an apple, and although it doesn't look like an apple, you can imagine how it is made from whole apples.

Let's Learn

Empty Calories

Estimated Time: 5 mins

1. Discuss with the students that after they eat their meals according to MyPlate Portions, there is a maximum number of **empty calories** we can have within a day from beverages and snacks.
 - Empty calories are energy (calories) we get from fat and sugars that are added to processed foods.
 - Empty calories give us excessive energy while providing very little or none of the nutrients we need.
2. Explain that reducing the number of empty calories will help them be their best today and stay healthy for the future.
3. For children, the recommended maximum is 150 empty calories a day.

Activity

Searching for Sugar, Fat and Salt!

Estimated Time: 15 mins

1. Divide students into ten groups. Each group will have a station with a **Search Kit** (Appendix A). Students will physically measure out in teaspoons the amount of empty calories some of their favorite foods/drinks have.
2. Before students open their kits and begin, have students make a prediction for how much sugar and/or fat their item will have. You can give each station their own card to write down their prediction versus actual amount or you can do it on the board for the whole class to view.
3. Have students open their Search Kit and measure out the amount of sugar and/or fat their item has.
4. Once students have completed, have each group share with the class the amount of sugar and/or fat their item had and make sure they physically show the class the cup with the sugar in it.
5. Use the table from the predictions to see the difference from the prediction to the actual amount of sugar and/or fat.

6. Continue by asking the following questions:
- Can you tell if a food has any fat, salt or sugar by looking at it? Can you tell how much fat, salt or sugar it has?
 - Does this activity help you to realize the how much sugar and/or fat you add to your diet when you eat processed foods?
7. Challenge the class to write a **Small Size It Action Plan** (Appendix B) to switch out or reduce the amount of empty calories they consume each day. Review Action Plans at end of month.

★ 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 (spray bottle may work better)

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 does 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 Monster Health Book, by Edward Miller. ISBN13: 978-0823421398

Appendix A

Search Kit

Each station will have a brown paper bag with the following items:

1 teaspoon measuring spoon

A small bowl of sugar

Clear plastic cup

Small card with one of the foods listed below

Optional: Play-dough balls (about one small scoop, rounded)

*Play-dough balls can be used to measure out fat. Sugar can also be substituted to measure out fat. Make sure students understand the difference between sugar and fat if sugar is used.

*Students will receive a card with one of the items below. Note: two groups will receive “Empty Calories from Sugar” and “Empty Calories from Fat” as an item.

Sugars	150 empty calories all from sugar = 10 tsp
	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	150 empty calories all from fat = 3.5 tsp
	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
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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

Whole Foods Versus Processed Foods

Here are some examples of whole versus processed foods.

Whole Food	Processed Food
Apple	Apple Pop Tart
Brown Rice	White Rice
Orange	Orange juice
Tomato	Canned Tomato soup
Corn	Tortilla chip
Potato	Potato chip

South Carolina State Vegetable

Collard greens became the official vegetable of South Carolina when Governor Nikki Haley signed Senate Bill No. 823 (S823) into Law on June 2, 2011.

The proposal to name collard greens the official state vegetable was prompted by a letter from Mary Grace Wingard, a 9-year-old Rocky Creek Elementary School student. Mary Grace said that she was inspired by a talk given by Governor Haley during a field trip her class made to the Statehouse.

"The governor told us to get excited and get involved in government, so I decided I would."

She wrote to Senator Jake Knotts (District 23 - Lexington County), who took on the task of writing and ushering S823 through the South Carolina General Assembly.

According to The State, "Mary Grace's family knows a thing or two about collards. Her great-grandfather is the namesake of Walter P. Rawl and Sons Inc., a family-owned farm in Lexington County and the state's largest producer of collards." [1]

The effort to make collard greens the official state vegetable was not the first time Mary Grace involved herself in politics. Even before entering the first grade, she persuaded her father, Charles, to lobby the United States Department of Agriculture (USDA) for salad bars in schools when he offered testimony at a USDA "Child Nutrition Listening Session" in Atlanta.

Mary Grace loved the salad bar in her elementary school cafeteria and thought every school should have a salad bar.

"On a mission for both his daughter and the produce industry, Charles urged USDA officials to establish a national policy that encourages salad bars in all schools and to make funding available so schools can buy needed refrigeration and salad bar equipment so they can serve students more fresh fruits and vegetables." [2]

Sources

State of South Carolina. *Senate Bill No. 823*. Columbia: State of South Carolina, 2011. Web. 16 Jun 2011. <http://www.scstatehouse.gov/sess119_2011-2012/prever/823_20110414.htm>.

[1] Smith, Gina. "Haley, Knotts bless collards." *The State* 27 May 2011: Web. 18 Jun 2011.

<<http://www.thestate.com/2011/05/27/1835935/haley-knotts-bless-collards.html>>.

[2] "Daughter Tells Her Dad to Fight for Salad Bars in Schools." *United Fresh Produce Association* 27 Aug 2008: Web. 18 Jun 2011. <<http://iuf.unitedfresh.org/newsletters/2008/08/27.php>>.

Shearer, Benjamin F. and Barbara S. *State Names, Seals, Flags and Symbols: A Historical Guide Third Edition, Revised and Expanded*. Westport, Conn: Greenwood Press, 3 Sub edition, 2001.

