



April/May: 3-5

A South Carolina Farmer for a Day



South Carolina

Farm to School Lessons

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Overview

Welcome to the South Carolina Farm to School April/May Agriculture Education Lesson. This lesson contains information & hands on activities where 3-5 students will be learning about farmers, agriculture and agribusiness. Our goals with this lesson are: 1) To help students develop awareness that farmers provide a variety and abundance of foods we need to develop and maintain healthy lifestyles, and 2) to help students explore the variety of jobs available in agriculture and agribusiness. This lesson also includes content & activities to promote the consumption of South Carolina fruits & vegetables. Specifically the focus of this lesson will be promoting SC summer squashes & strawberries, which are the Palmetto Picks of the Month for April & May, respectively. **This lesson provides a perfect opportunity for an actual farmer to visit the students.**

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: 1 hour and 15 minutes

Teacher Background¹

Clustering occupations based on the nature of the work involves studying what people do in the work and relating these observations to the competencies needed to perform the work. Agriculture is divided into six major areas:

- **Production agriculture:** Production agriculture is concerned with raising live- stock, producing livestock products (e.g., milk and eggs), and growing crops. It is often equated with farming and ranching.
- **Supplies and services:** The supplies and services area is concerned with providing the inputs needed to produce livestock, livestock products, and/or crops. Examples of supplies are feed, seed, and fertilizer. Examples of services are custom harvesting, crop consulting, and veterinary medical services.
- **Products processing and marketing:** The products processing and marketing area includes all the activities in processing the crops or livestock produced on farms and getting the products to consumers in their desired forms.
- **Forestry:** Forestry is concerned with the production of trees for various uses, such as lumber, paper, and ornamental products. It includes native forests as well as tree farms.
- **Natural resources:** The natural resources area includes the conservation and protection of water, soil, air, and other natural resources, including wildlife. Environmental science can be included in this area.
- **Agricultural mechanics and technology:** This area includes the manufacture, repair, and operation of tractors, implements, and computer-based systems.

Horticulture is divided into four major areas:

- **Landscape horticulture:** This area includes production nurseries, landscape nurseries, landscape maintenance services, plant and seed producers, retail garden centers/nurseries, and botanical gardens.
- **Floriculture:** This area includes the production, design, and marketing of flowers. Flower growers and marketers, wholesale florists, and retail florists are involved in this area.
- **Fruits, vegetables, and nuts:** This area deals primarily with food products and includes production, processing, packaging, distribution, and advertising.
- **Turfgrass:** This area deals with the use of grasses and other ground covers and includes sod production, turf establishment, and golf course and other turf area design and maintenance.

A professional occupation requires a high level of education and/or experience. Many professional occupations require college degrees at the master's or doctoral level.

- Examples in agriculture: agriculture teacher, veterinarian, agricultural engineer, plant breeder, biotechnologist
- Examples in horticulture: horticulture teacher, landscape architect, plant bio- technologist, vegetable researcher, geneticist

A managerial occupation involves managing an agricultural or horticultural enterprise. A college degree and/or considerable experience may be required. An individual who is a manager has large responsibilities for the success of the enterprise and the welfare of the employees.

- Examples in agriculture: feed mill manager, sawmill manager, fish farm manager, ranch manager
- Examples in horticulture: garden center manager, turf farm manager, flower market manager

A technical occupation is one that demands specialized training in performing processes, using equipment, and carrying out activities. Requirements are usually two years of education beyond high school and/or experience.

- Examples in agriculture: veterinary medical assistant, fish farm water-quality technician, food product inspector, farm equipment mechanic
- Examples in horticulture: floral designer, landscape designer, vegetable research technician

A skilled occupation is one that requires specialized education and training. Education beyond high school is often needed for occupational entry. On-the-job training may be particularly important.

- Examples in agriculture: farm equipment mechanic, artificial inseminator, pesticide applicator, livestock buyer
- Examples in horticulture: landscape installer, greenhouse assistant, nursery crop propagator

A semi-skilled occupation is one that requires some education and training and/or on-the-job experience. Semi-skilled occupations may be the entry level for individuals who have just completed training and need time to develop more skills before advancing to skilled occupations.

- Examples in agriculture: farm equipment set-up mechanic, mechanics assistant, warehouse employee, cattle herder
- Examples in horticulture: garden center assistant, packing shed attendant, lawn maintenance assistant

An unskilled occupation is one that requires neither specific education or training nor experience in order to perform the duties. Unskilled occupations are entry-level occupations that often involve considerable manual labor.

- Examples in agriculture: farm laborer, food plant utility person, fertilizer plant mail clerk
- Examples in horticulture: vegetable picker, warehouse worker, greenhouse worker

¹ Adapted from: Lesson: Selecting an Agriculture/Horticulture Occupation (www.MYcaert.com)

Lesson checklist



F2S Aim: Increase awareness related to farmers, agriculture and agribusiness.

F2S Objectives

Students will be able to:

- * Learn agriculture facts about South Carolina.
- * Understand agriculture as an occupation which creates many jobs.
- * Describe the resources to grow summer squashes and/or strawberries.
- * Experience planting a crooked squash seed and/or strawberry start
- * Taste a new food featuring summer squash and/or strawberries.



Materials:

- * South Carolina Agricultural Facts (Appendix A)
- * Producer to Consumer (Appendix B)
- * Palmetto Pick Activity Materials on page 8.
- * Gardening Activity Materials on page 8.



National Health Education Standards

1.5.3	2.5.2	2.5.3	3.5.1	3.5.2
5.5.1	5.5.3	8.5.1	8.5.2	

SC State Standards

E4-1.1	Analyze the details that support the expression of the main idea in a given literary text .
E4-1.2	Analyze literary texts to draw conclusions and make inferences .
E4-2.3	Analyze informational texts to locate and identify facts and opinions.
E4-2.4	Create responses to informational texts through a variety of methods (for example, drawings, written works, and oral presentations).
E4-1.1	Generate and organize ideas for writing using prewriting techniques (for example, creating lists, having discussions, and examining literary models).
E4-4.4	Use grammatical conventions of written Standard American English, including <ul style="list-style-type: none"> • subject-verb agreement, • past, present, and future tenses, • conjunctions, • adverbs of time, place, manner, and degree; and, • pronoun-antecedent agreement;
E4-6.2	Use print sources (for example, books, magazines, charts, graphs, diagrams, dictionaries, encyclopedias, atlases, thesauri, newspapers, and almanacs) and non-print sources to access information
E4-6.5	Create a list of sources that contains information (including the author and title of publication) necessary to properly credit and document the work of others.
E4-6.7	Use vocabulary (including Standard American English) that is appropriate for the particular audience or purpose.
E4-6.8	Select appropriate graphics, in print or electronic form, to support written works and oral and visual presentations

Lesson Essential Components

Lessons profile	Page(s)	Yes	No	Notes
Palmetto Pick of the Month	9-10	★		Tasting activities with summer squash or strawberries.
Health Education Standards	5	★		
SC-Cross Curricular Standards	6	★		
SC-F2S Behavioral Goals	4	★		
Cooking Activities	9-10	★		
Tasting Activities	9-10	★		
Physical Activity	8-9	★		
Food Safety	10	★		
School Food Garden	9	★		
Student to Farmer Connections (i.e. field trips, talks)	8	★		
Student to Chef Connections			★	
Farm to Cafeteria			★	
Provision of scientific knowledge/rationale	8-10	★		
Risk and benefits about healthy behaviors			★	
Obstacles, Barriers & Solution			★	
Family involvement and other supports		★		Family Activity Letter
Set goals and monitoring progress			★	
Other hands on activities:	8-10	★		Team Activities

Let's Learn!

Introduction: Each one, teach one!¹

Estimated Time: 15 minutes

1. Explain to the students, "In this activity, you will have two roles: a teacher and a learner."
 - "You will receive a card that has one **South Carolina Agricultural fact** (Appendix A). Your job is to teach that fact to everyone else in your color group. Use whatever teaching strategies you wish to use to help your classmates learn. At the same time you are teaching your fact, you will also be learning as many facts as possible from the other people in your color group. Your goal is to be a good teacher and a good learner."
 - "There will be an evaluation at the end of the activity in which the good teachers and the good learners will be recognized."
 - "Any questions?" [Distribute cards —one to each student. "You may begin." [The less instructions you give at this point the better; different groups will approach this activity differently. Students like to talk and students like to move— and this activity incorporates both.]]
2. Walk among the groups to observe methods being used. Make sure you have an overhead projector with blank transparency and overhead marker ready during this time.
3. When it is obvious that it is time to stop, have everyone return to his or her seat.
 - "Now it is time for your evaluation — this will be a group evaluation. Place the card with the fact you were teaching in a pile in the center of the table."
 - "I want you to think of a fact someone else taught you — raise your hand when you have done so. I will call on you to share the fact."
4. As students share facts they remember, be sure to write the facts on the transparency so the visual learners can see them in print. Also, as facts are shared, ask the student who taught that fact to stand and take a bow.]
5. After all facts have been shared, or until no one is able to remember another fact, have all the students

who shared a fact stand and take a bow. Recognize them as good learners.

6. This activity is very effective as an introduction to a farmers, agriculture and agribusiness.

Activity

The Business of Agriculture²

Estimated Time: 30 minutes

1. Introduce the lesson by visiting a grocery store and discussing how the produce, dairy products, meats and canned foods traveled to the store. Alternatively, visit the school cafeteria, using the week's lunch menu as a point of discussion.
2. Have students complete "**Producer to Consumer**" (Appendix B). This activity may be used as a worksheet or modified to create an independent center activity: cut out the steps of each sequence; laminate; put each set of strips into a separate envelope; allow students to correctly order each sequence; compare to answer key. Alternatively, play "Producer to Consumer" Beat-the-Clock. Write each step on a sentence strip, give each strip to a different student, and give the students a brief period of time to correctly order themselves. Discuss how each business in each step makes money. Discuss ways to cut costs.
3. Have students divide into small groups to brainstorm jobs created by farming. Discuss the students' ideas. **Invite** a high school vocational agriculture teacher or a cooperative extension agent to discuss the many different jobs available in agriculture and agribusiness.
4. Compile a class list of these occupations. Invite any workers from these fields to visit the class and discuss their jobs. On each of the 3x5 cards, write one job made possible by farming. Place cards face down in a pile. Divide the class into two teams. The first team member will choose a card and tell how that job was made available by agriculture. If the player is right, the team keeps the card; if not, the card is returned to the pile. The activity continues, alternating teams, for a set amount of time or until all cards are kept. The team with the most cards wins.

5. Have students write/illustrate a story about which job they would choose and why.

Answer Key — Activities

(17a) — Producer to Consumer

- fried chicken: 4 – 2 – 8 – 1 – 5 – 7 – 6 – 3
- fruit salad: 3 – 5 – 2 – 6 – 4 – 1
- cotton shirt: 10 – 7 – 5 – 9 – 1 – 3 – 2 – 4 – 8 – 6
- milk: 1 – 4 – 3 – 5 – 2

★ Gardening Activity

Planting a Strawberry Jar OR Planting a Crookneck Squash Seed (You can either choose one of the planting activities or do both)⁵
Estimated Time: 15 minutes.

1. Strawberry Jar- Materials Needed: Ever-bearing strawberry starts (small plants); Small flower pot or old coffee can (8-10" in diameter, 8" deep); Water for soil in a small spray bottle; Potting Soil.

2. Strawberry Gardening Activity: Tell the children that today they will plant small strawberry plants. Explain to the students the importance of sunlight, soil and the right amount of water for their plants to grow to their full potential. Juicy foods like strawberry needs lots of water so farmers and gardeners will use sprinklers or watering cans in addition to rain to make sure plants have plenty water.

3. Planting Tips: Fill the container 2/3 full of potting soil. Remove the start of the plant from its pot and gently loosen roots. Place the start in a single container or 8 inches apart in larger containers. Cover with soil and water to moisten but not drench.

OR

1. Crookneck Squash Seed-Materials Needed:

Crookneck squash seeds packets; 5 to 6 ounces paper cups one per child; Potting Soil; Unsharpened pencil; Water for soil in a small spray bottle; Plastic spoons one per child; waterproof markers; wooden craft sticks; table covers if desired; sunny location.

2. Crookneck Squash Gardening Activity: Tell the children that today they will plant squash seeds. The seeds need soil, water, light and warmth to grow into plants. The seeds will grow first into very small plants then into larger plants. These larger plants, if planted outside in the garden, will continue to grow with sunlight and water.

3. Planting Tips: Help each child write his/her name on their cup. Help the children fill their cups about 3/4 full of potting soil. Gently tap the sides and bottom of their container with their index finger to settle but not pack the soil. Poke three holes in the soil spaced around the cup. Use the marked unsharpened pencil to make holes 1/2 inch deep. Place a seed in each hole and gently cover the seeds with soil. Light spray water over the top of the soil. If using wooden plant markers, stick one in the soil close to the inside curve of the cup. Have the children set their cups in a sunny spot. Have the children check their cups weekly to see the progress of the seeds growing into plants.

★ Palmetto Pick Activity

Summer Squash Sandwich OR Strawberry Pizza

Estimated Time: 15 mins

Ingredients: Summer Squash Sandwich Sensory Exploration

Summer squash, (1-2 inches in diameter), Mozzarella or Cheddar cheese slices, Plates, Napkins

OR

Ingredients: Strawberry Pizza Sensory Exploration

Graham cracker squares (1 for each child), Strawberry-flavored cream cheese, Strawberry slices, Plates, Napkins

Sensory Exploration Activity:

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 squash/strawberries before beginning. Talk about planting summer squashes/strawberries while eating during this taste tasting activity.

Summer Squash Sandwich: Give the child a plate with at least two thin slices of summer squash and one slice of cheese. Tell the children they are going to make a sandwich with summer squash. Allow them to place the cheese between the crookneck squash slices to make a sandwich and have them note the difference in shape and textures. As the children eat their summer squash sandwiches, have them describe how the squash: smells, feels in mouth and tastes

Strawberry Pizza: Give each child a paper plate with cream cheese topped graham cracker. Let child select several slices of strawberry with a spoon or fork. Show the children how to layer the strawberry slices on the cream cheese to make a pizza. As the children eat their strawberry pizzas, have them describe how the strawberry: smells, feels in mouth and tastes.

Note: You may want to have squash/strawberry samples sliced before you begin the PPM Activity. Remember, that you can use the Farm to School grant funds to purchase the materials required for this activity. Additionally, if you need assistance identifying places to purchase SC summer squash or strawberries, feel free to contact your Farm to School Agriculture regional coordinator.

Evaluation

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

¹ SC 3rd Grade Ag in the Classroom Curriculum, 2011.

² SC 4th Grade Ag in the Classroom Curriculum, 2011.

³ Source: Team Nutrition-United States Department of Agriculture.(2009). Grow it, Try it, Like it! Preschool Fun with Fruits and Vegetables. Booklets 2 & 7.

Resources



Books:

Koch P.A., Barton A.C., Contento I.R. (2008). Farm to Table & Beyond. Teachers Columbia University & the National Gardening Association, New York, NY.

Websites:

To request nutrition education materials visit the Clemson University Nutrition and Resource Center (NIRC): www.clemson.edu/nirc

The Farmers Grow a Rainbow song, lyrics and educational lessons: <http://www.agclassroom.org/rainbow/>

Strawberries Time Activity and Coloring Booklet: http://www.ncstrawberry.org/docs/kidactivity_export.pdf

Start a school salad bar-Part of First Lady Michelle Obama's Let's Move: <http://saladbars2schools.org/>

Appendix A
South Carolina Agricultural Fact Cards

South Carolina Agriculture Fact Sheet

Farmers and ranchers receive only 19 cents of every dollar spent on food at home and away from home.

An acre is about the size of a football field.

South Carolina is home to the only tea farm in North America.

By the year 2050, it is estimated that the world's population will reach 7.9 billion.

To continue feeding the world population, crop yield must increase by 85%.

Agriculture is the largest industry in the United States.

The top cash receipts commodity in South Carolina is Broilers.

Wheat buns are made from flour.

Peanuts grow underground.

Soybeans, grown in most South Carolina counties, are found in many products from crayons to chocolate.

Cotton is grown in South Carolina to produce fiber for clothes.

Corn is an important South Carolina crop.

Christmas trees are an important South Carolina product.

Flowers and shrubs are important to South Carolina agribusiness.

Products move from the farm to the processor to the transporter to the grocery store.

Appendix A (continued)

Farming is not just a job — it's big business.

There are 27,000 farms in South Carolina.

Farm forest products are things we get from trees, such as paper and lumber for houses.

South Carolina is number two in the nation in peach production.

South Carolina is number six in the nation in peanut and watermelon production.

Almost everything we eat, drink or use starts out on a farm.

South Carolina is a major tobacco producer.

Hog heart valves are used to replace damaged heart valves in people.

Aquaculture is the growing and harvesting of creatures that live in the water.

Beekeeping and honey production are important in South Carolina.

Catfish, shrimp, tilapia and crayfish are harvested in South Carolina.

A crayfish looks like a small lobster.

The value of dirt is priceless, not "dirt cheap."

Contour plowing conserves the soil.

Crop rotation provides nutrients to the soil.

Dairy cows produce whey that is made into cheese.

Appendix B
Producer to Consumer

Producer to Consumer

Directions: Getting food to your table and clothes in your closet involves a complex series of jobs. Put each set of jobs in a correct sequence by numbering each job.

FRIED CHICKEN

- _____ A butcher processes and packages the food.
- _____ A commercial hatchery hatches eggs in incubators.
- _____ A consumer buys the chicken.
- _____ A breeder raises hens that lay fertilized eggs.
- _____ A trucker takes food to the grocery store.
- _____ A cook or chef fries the chicken.
- _____ A grocer prices and displays the chicken.
- _____ A farmer grows the chick to market size.

FRUIT SALAD

- _____ A trucker takes produce to grocery store.
- _____ An advertisement makes consumers aware of the produce available.
- _____ A wholesale dealer packages and crates the produce.
- _____ A consumer buys the produce and prepares the salad.
- _____ A grocer prices and displays produce.
- _____ A farmer plants and harvests fruits and vegetables.

COTTON SHIRT

- _____ A consumer buys the cotton shirt from the store.
- _____ A wholesaler packages and labels clothes in preparation for retail sale.
- _____ A clothing manufacturer cuts and sews the clothes.
- _____ A retailer (storeowner) displays clothes and advertises their availability.
- _____ A farmer grows and harvests cotton.
- _____ A textile miller processes cotton into cloth.
- _____ A trucker takes cotton to the mill.
- _____ A trucker takes cloth to the manufacturer.
- _____ A trucker takes the clothes to the retailer.
- _____ A trucker takes the clothes to the wholesaler.

MILK

- _____ A farmer raises and milks dairy cows and stores milk in large tanks.
- _____ A retailer displays milk in a grocery store.
- _____ A trucker takes the milk from the dairy to the store.
- _____ A consumer buys a carton of milk.
- _____ A dairy processes the milk and packages it for selling.