**Unit Goal**: To understand the advantages, disadvantages, and working systems related to local foods production. Each lesson lasts approximately 3-7 hours (Lesson One is contained in this document).

**Lesson One**: Introduction- What is local?

**Lesson Two**: Defending the local choice

**Lesson Three**: How do you live and eat locally?

|  |  |
| --- | --- |
| **Title (Required)** | Exposing the Roots of Local Food Production |
| **Section of Lesson** | **Lesson One: What is Local?**  In this lesson, students will identify and compare terms and markers of a local food production system. They will identify its relevance to their daily lives. |
| **Introduction** | For the past two decades, the American culture has been working its way backwards to an era that provided health, economic, and environmental benefits. An era in which people knew where their food came from and could tell you the name of the person that grew it and sold it. The local foods movement is a cultural shift in the American way of life and it is seeking to update past food traditions, but with a modern twist.  In this unit, students will learn about the local foods movement and how they can make a positive difference in their health, economy, and environment by choosing to live and eat locally. The teacher will utilize a variety of instructional methods to inspire a passion for local food. Literacy and curriculum integration is of utmost importance in this unit as students learn to apply the local foods movement to their everyday life.  In this lesson, students will begin to understand the components of the food system and will be able to discuss basic agricultural terminology in relation to the local foods movement. Students will read and analyze excerpts from Animal, Vegetable, Miracle, a novel focused on local food decisions. They will compare American food culture with that other countries around the globe. The students will also begin a business plan for their own local food or agriculture product business. |

**Lesson Four**: How can I make a difference?

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Curriculum Alignment** | **NC Essential Standards**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Content Area | Grade Level | NC SCS | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | | Science | 6-8 | 6.L.1.2 |  |  | X |  | | Science | 6-8 | 6.L.2.3 |  |  | X |  | | Science | 6-8 | 8.P.2.2 | X | X |  | X | | Science | 3-5 | 3.L.2.1-4 |  |  | X |  | | Biology | 9-12 | Bio.2.1.1 |  | X |  |  | | Biology | 9-12 | Bio.2.2.2 | X | X |  |  | | Earth and Environmental Science | 9-12 | EEn.2.2.1 | X | X |  |  | | Earth and Environmental Science | 9-12 | EEn.2.6.3 | X | X |  | X | | Earth and Environmental Science | 9-12 | EEn.2.8.2 | X | X |  | X | | Civics and Economics | 9-12 | CE.E.1.3 | X | X |  | X | | Civics and Economics | 9-12 | CE.E.1.4 | X | X |  | X | | Civics and Economics | 9-12 | CE.E.1.5 | X | X |  | X | | Civics and Economics | 9-12 | CE.E.1.6 | X | X |  | X | | Social Studies | 3 | 3.G.1.3 | X | X |  | X | | Social Studies | 3 | 3.G.1.4 | X | X |  | X | | Social Studies | 3 | 3.E.1.1 | X | X |  | X | | Social Studies | 3 | 3.E.1.2 | X | X |  | X | | Social Studies | 4 | 4.E.1.1 | X | X |  | X | | Health Education | 6-8 | 6.PCH.3.1 | X | X |  | X | | Health Education | 6-8 | 6.PCH.3.2 |  |  | X |  | | Agriscience Applications | 9-12 | 2.02 | X | X | X | X | | Agriscience Applications | 9-12 | 3.03 |  |  | X |  | | Exploring Agriculture Science | 6-8 | 7.01-7.03 | X | X | X | X | | Exploring Agriculture Science | 6-8 | 9.01-9.02 | X | X |  |  |   **Next Generation Science Standards**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Content Standard | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | | HS-ESS3-2 | X | X | X | X | | HS-ESS3-3 |  | X | X |  |   **Common Core Standards**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Content Standard | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | | ELA-Literacy.RST.11-12.1 | X | X | X | X | | ELA-Literacy.RST.11-12.2 and 12.3 |  |  | X |  | | ELA-Literacy.RST.11-12.7 | X | X | X | X | | ELA-Literacy. RH 9-10.9 |  |  |  | X | |
| **Learning Outcomes** | Students will identify key terms related to local food production and food systems.  Students will compare conventional and local food system structures.  Students will analyze modern literature and relate an author’s viewpoint to his or her everyday lives.  Students will map and compare food miles, or the miles used to transport food products, of conventional versus local foods.  Students will create a description and goals for an agriculture business focused on local products. |
| **Time Required and Location** | * Time: Three- 90 minute class periods. * Time: One additional class period may be needed for supplemental activities. * Location: All teacher directed activities conducted in regular classroom or indoors. * Location: Two student activities may be conducted at home or in an alternate, outdoor location. |
| **Materials Needed** | Teacher List   * Large World Map or Google Chrome view for the “Trace Your Perfect Plate” Activity * Lesson One Terminology PowerPoint/Notebook Presentation with Video Links * Food System Role Play Cards * Food System Role Play Cards Key * Review cards: Small Index Cards, scrap pieces of construction paper, recycled paper scraps, or Large “Post-it” Notes * Computer and Projector * Speakers for Videos * Options for the Animal, Vegetable, Miracle Chapter One Reading * Option One: Obtain a class set of Animal, Vegetable, Miracle by Barbara Kingsolver * Option Two: Print copies of the excerpt PDF file for students to use for reading. * NC 10% Video Contest Rubric to display for students. * Small video cameras, recycled smart phones, or used tablets for “loan” to groups without access to a video camera for the 10% video contest. (1 device for every ten students) * “Shark Tank- Local Edition” Agriculture Business Plan Rubric and Project Guidelines * Confirmation from (Non-Farmer) Guest Speaker: CSA, Farmer’s Market, or Cooperative Representative.   Student List   * Lesson One: What is Local? Notes Worksheet, 1 per student * Animal, Vegetable, Miracle Books or the Chapter One Excerpt (if a class set of the book is not available), 1 copy for every 2 students * AVM Chapter One Worksheet and Food Culture Assignment, double sided, 1 per student * “Trace Your Perfect Plate” Food Mile Comparison Worksheet, 1 per student * 1 computer for every 2 students * “Shark Tank: Local Edition Agriculture Business Plan” Project Worksheet, 1 copy per student. * Notebook paper for developing Guest Speaker Questions, 1 per student | |
| **Safety** | Students should practice safety when using videotaping devices. Do not use the devices near liquids, food, or chemicals. Students should remain aware of their surroundings when filming the video. | |
| **Student Prior Knowledge** | Students do not require any prior knowledge for this lesson. | |
| **Instructional Outline** | General Knowledge, Facts, and Statistics that students will be able to identify by the end of the lesson:  **Terminology**   1. Food System: A ***food system*** includes all processes involved in feeding people. 2. Processes Include: Growing, harvesting, processing, packaging, distributing, marketing, consuming, disposing and recycling. 3. Food systems require inputs (e.g., soil, seeds, water, nutrients, labor, education and research), generate outputs (e.g., food and waste) and are influenced by numerous external environmental, economic, political and social factors. 4. **Food Mile(s)**: the distance that a product travels from the production area (farm) to the consumer. 5. A ***food economy*** can be similarly described. In its most basic form, an economy is the way in which people within a region or area use their environment to meet their material needs. 6. A food economy involves the ways we produce, exchange, distribute and consume food-related goods and services to meet our needs. 7. Food economies are influenced by numerous historical, social, geographic, ecological and natural-resource factors. 8. ***Sustainable agriculture*** is typically described as a system of production that has the capacity to be economically viable, environmentally sound and socially responsible. 9. According to the U.S. Department of Agriculture (USDA), the term *sustainable agriculture* describes an integrated system of plant- and animal-production practices having a site-specific application that will, over the long term, meet several objectives. 10. **Loca**l: refers to the production *and* consumption of products in the same immediate geographic region. (In reference to food, it is also sometimes used to describe indigenous plant varieties, animal species and food specialties within an area.) 11. “Local” is currently a popular term that holds much social capital. While many local-food advocates identify finite ranges— the 100-mile diet has been popular—it is not necessary to assign mileage limitations. 12. When it comes to food, local is a relative concept. When considering two options in food or a meal, ask the following question: Which choice is more local than the other? 13. (For Teacher Explanation) In North Carolina, for example, collards could be considered local when grown in the immediate or adjacent county, whereas local apples might come from farther away, but still from within the state. Products such as oranges and avocados will obviously be sourced from outside North Carolina; on a relative basis, though, they are more local if they come from Florida than if they are shipped from California. 14. (For Teacher Explanation) In response to the “local” movement, there is a growing number of Community Supported Agriculture programs, or CSAs, in which consumers purchase directly from a farmer or single organizing individual. 15. **Locavore**: The New Oxford American Dictionary (NOAD) defines a “locavore” as a local resident who tries to eat only food grown or produced within a 100-mile radius. This 100-mile radius measure is not, however, a standard for local markets. 16. **Organic Farming**: Vegetable or livestock [production](http://www.businessdictionary.com/definition/production.html) [using](http://www.businessdictionary.com/definition/user.html) natural [sources](http://www.businessdictionary.com/definition/source.html) of [nutrients](http://www.businessdictionary.com/definition/nutrient.html) (such as compost, crop residues, and manure) and natural [methods](http://www.businessdictionary.com/definition/method.html) of crop and weed [control](http://www.businessdictionary.com/definition/control.html), instead of using [synthetic](http://www.businessdictionary.com/definition/synthetic.html) or [inorganic](http://www.businessdictionary.com/definition/inorganic.html) agrochemicals. Also [called](http://www.businessdictionary.com/definition/call.html) [low input farming](http://www.businessdictionary.com/definition/low-input-farming.html). **Conventional Agriculture:**  Difficult to define as it is used to describe a wide range of [agricultural](http://www.theinnovationdiaries.com/1688/why-agricultural-biodiversity-is-needed/) practices. In general, it is any type of agriculture that requires high external energy inputs to achieve high yields and generally relies upon technological innovation and fossil [fuels](http://www.theinnovationdiaries.com/2694/vegetable-oil-fuel/) to supplement the required energy.  Many also define the term conventional farming as being synonymous with non-organic. 17. **Concentrated Animal Feed Operation (CAFO):** A large concentrated animal feeding operation (AFO) for livestock.  A CAFO is an AFO with more than 1000 animal units (an animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 lbs, 125 thousand broiler chickens, or 82 thousand laying hens or pullets) confined on site for more than 45 days during the year. 18. **Processed:** Manufactured products that are designed to have a long shelf-life through the addition of preservatives, coloring, additives and flavorings. 19. **Minimally Processed:** Products produced with the last amount of additives while still sustaining a market and shelf-life. For example, yogurt is a minimally processed food.   **Growing Trends and Statistics** (Teacher Preparation or In-Depth Student Content)   1. According to the definition adopted by the U.S. Congress in the 2008 Food, Conservation, and Energy Act (2008 Farm Act), the total distance that a product can be transported and still be considered a “locally or regionally produced agricultural food product*” is less than 400 miles from its origin, or within the State in which it is produced*. 2. Local food markets account for a small but growing share of total U.S. agricultural sales. 3. Direct-to-consumer marketing amounted to $1.2 billion in current dollar sales in 2007, according to the 2007 Census of Agriculture, compared with $551 million in 1997. 4. Direct-to-consumer sales accounted for 0.4 percent of total agricultural sales in 2007, up from 0.3 percent in 1997. If nonedible products are excluded from total agricultural sales, direct-to-consumer sales accounted for 0.8 percent of agricultural sales in 2007. 5. The number of farmers’ markets rose to 5,274 in 2009, up from 2,756 in 1998 and 1,755 in 1994, according to USDA’s Agricultural Marketing Service. 6. In 2005, there were 1,144 community-supported agriculture organizations (CSAs) in operation, up from 400 in 2001 and 2 in 1986, according to a study by the nonprofit, nongovernmental organization National Center for Appropriate Technology. In early 2010, estimates exceeded 1,400, but the number could be much larger. 7. The number of farm to school programs, which use local farms as food suppliers for school meals programs, increased to 2,095 in 2009, up from 400 in 2004 and 2 in the 1996-97 school year, according to the National Farm to School Network. Data from the 2005 School Nutrition and Dietary Assessment Survey, sponsored by USDA’s Food and Nutrition Service, showed that 14 percent of school districts participated in Farm to School programs, and 16 percent reported having guidelines for purchasing locally grown produce. 8. Trends in the Local Movement and Community Supported Agriculture Programs (CSAs): 9. In 1986, there were 2 CSA operations in the United States. By 2005, there were 1,144 CSAs compared to 761 in 2001, an increase of 50 percent. 10. In 2008, Chipotle Mexican Grill, one of the fastest growing quick service chains, began purchasing 25 percent of at least one produce item for each of its stores from farms located within 200 miles. 11. Several leading retailers have recently announced local food initiatives. In a July 1, 2008, press release, Wal-Mart expressed its commitment to “source more local fruits and vegetables to keep produce prices down and provide affordable selections that are fresh and healthful.” More recently, Safeway, the fifth-largest U.S. food retailer, announced that it is launching a campaign to significantly increase its focus on locally grown produce. Publix, the sixth-largest U.S. grocer, recently indicated that it will promote Redlands Raised produce in its Florida stores. | |
| **Teacher Preparations** | * Review extra resources provided in the References sections of lesson. * Review terminology PowerPoint and related videos. * Research your local area for Community Supported Agriculture programs, Food Cooperatives, Farmer’s Markets, or restaurants/businesses that support local farmers. * Contact and confirm a “Non-Farming Guest Speaker” * Materials:   -Print and copy the “Trace Your Perfect Plate” Worksheets  -Print, cut, fold, and laminate a class set of the “Food System Role Play Cards”  -Print one key of the “Food System Role Play Cards” for the “Food System Specialist”. This is simply a list of the role play cards in the same order they are in their original document.  -Print and copy the AVM Chapter One Worksheet and Food Culture Assignment (double-sided)  -Print and copy the “Shark Tank: Local Edition Agriculture Business Plan” (double-sided)  -If necessary, reserve computers for this lesson.  -Find access to devices for filming the student video. | |
| **Activities** | **Engage**   1. “Food for Thought” or Starter Questions: 5 min   -Use the following as a starter question or open discussion for the beginning of class:  What is your favorite meal? List all of the ingredients for this meal.  -After students have answered, have a brief, open discussion of a few answers.  (For the teacher: The goal of this starter question is to compare the number of ingredients found in our meals and to begin a discussion on the origin or acquisition of those ingredients. The discussion should lead to an opening for the Trace Your Perfect Plate activity in which students trace the origin of food ingredients.   1. Trace your Perfect Plate: 20 min   -Use the “Trace Your Perfect Plate” worksheet as a discussion piece and interest approach for the lesson. Make sure to focus on the environmental stress caused by transporting food from great distances.  -During the Part Three Reflection Questions, encourage students to share their answers with a partner after they have answered their questions. Then, use a short class discussion from these questions to lead into the notes.  **Explore**   1. Terminology Overview: Use the PowerPoint to go through the following two activities 45min   -Distribute the “Lesson One: Notes Worksheet” for students to record information during the lesson. Students are to record their notes on the objects.   1. Food System Roles and Game Cards:   \*When referenced in the PowerPoint, play as follows.  PART ONE  1. Designate one student as “The Food System Specialist.” When the game begins, this student will be given the original set of cards in order. They will use these to dispute any arguments between other students.  2. Tell students that you will be giving them a folded card and that they may not open it until directed by you.  3. Pass out the role play cards. Tell students that each card represents a person or company involved in a detailed food system. On the left side of the card is a description of who/what they will represent with the card. On the right side of the card is a job opportunity related to that part of the food system. Tell students that when you say “GO” they will be lining up as a class and placing themselves in the order of a food system using their cards. Tell them who is acting as the “Food System Specialist” and can help with disputes. Some students will be in groups because of the number of cards in their category while some will be alone in their step in the food system.  4. Say “GO” and give the key to the “Food System Specialist.”  5. When the line is complete, assess the accuracy of the line. Start on the left side and discuss the cards/groups found. Correct any mistakes in the line.  PART TWO   1. Tell the students that they have one minute to form the simplest food system possible in a line. They must choose which “cards” must sit down and no longer be a part of the food system. 2. Assess the line formed. Discuss with students various options in the food system. Producers, consumers, and waste management/compost must always be present. Ask them if it is really feasible for a system to be this simple? Question how this might be possible? 3. Videos/Links: Play these throughout the PowerPoint. After each video, hold a short discussion concerning the content of the video. 4. Animal, Vegetable, Miracle Chapter One Excerpt: (Pgs 4-5, 12-17 “conversation”) 15 min 5. \*You may have students read the entire chapter or the excerpt. The excerpt begins on page 4, last paragraph “The average.” It goes through the bottom of page 5. Then, it starts again on page 13, middle of the page “This drift away.” It ends at the bottom of page 22. 6. Divide students into pairs or small groups. Distribute the Chapter One Excerpt and the worksheet. 7. Instruct students to read the excerpt out loud by taking turns (popcorn reading) and completing their worksheet individually. As students come across the quotes, terms, or definitions on the worksheet, they should record their thoughts, feelings, or possible facts from the reading. 8. If there is time left in the class period, you may continue with the AVM Chapter One Excerpt Discussion. 9. \*\*\*If you wish to conserve paper, you may have students copy the AVM Chapter One Worksheet into their notebooks or onto notebook paper. 10. “Let’s Chew on it”: Review for end of first class period 5-10 min 11. Distribute each child a review card. 12. Instruct them to write the following on their card: 13. Name and Date 14. List the names of food that you think you can never “give up.” 15. How do you think your community would be different if more people purchased their food from local farmers? 16. Your favorite term from today. Why is this your favorite? 17. Students should complete their card, share it with one partner, and then turn it in to the teacher.   **Explain**   1. “Food for Thought” or Starter Questions: 5 min   -Use the following as a starter question or open discussion for the beginning of class:  1. What is one role in a traditional food system that is not found in a local food system?  2. List two differences between a CSA and a supermarket.   1. AVM Chapter 1 Excerpt Discussion 15 min 2. Ask for a summary of the reading from a student 3. Discuss the meaning of the excerpt and a few of the quotes on the AVM Chapter One worksheet. 4. Local Foods Representative Q & A (Video Conference or Guest Speaker) 40 min   Part One   1. Introduce your local foods speaker 2. Divide students into groups of three to four each. Designate a class recorder that will keep track of all groups, questions, and take minutes during the guest speaker. 3. Give each group three minutes to brainstorm and record three questions on notebook paper for the guest speaker in relation to agriculture and local foods. When groups finish brainstorming, have one representative bring the questions to you for review. Advise the groups on appropriate questions.   Part Two   1. Allow guest speaker to share their story, advice, and input. Remind the designated class recorder to take minutes. Allow students to ask questions. 2. Thank the speaker and present with a token of appreciation.   **Elaborate**   1. Project: What is American Food Culture? An In-Depth Look (Two-30 min segments) 60 min 2. Review the “Food Culture Assignment” on the back of the AVM Chapter One Worksheet. Set a due date and assign a foreign country to each student. 3. Allow students to use computers and/or classroom craft materials to create their online or visual presentation. 4. Use 30 minutes for this class period. Allow students to work on the assignment at home the first night. Then, allow 10 minutes to finish the assignment on the second day and 20 minutes for presentations to the class.   \*Possible review for one class period and the start of another. Place each “guest speaker group” responsible for writing a thank-you card to the speaker during the review or starter activity for a class period.   1. “Shark Tank: Local Edition Agriculture Business Plan”- Phase One 45 min 2. Read the project outline and rubric. Tell students that the project will be completed in parts throughout the unit. They may choose to work alone or in a group of no more than three. 3. Allow students 5-10 minutes to choose a sole-proprietorship or partnership, a product or type of business, and a business name. This should be turned for a participation grade. 4. Then, allow students to work on and turn in a rough draft of their full description, philosophy and mission, and location of business.   **Evaluate (see Assessment)**   1. NC 10% Mock Video Contest Project (Extension Activity) 90 min 2. Review the video rubric and guidelines with students (found in the appendix). 3. Divide them into small groups and provide them with recording devices and laptops, if necessary. 4. Allow them to plan (display this plan to you) and film their video during class time. You can also allow post production and editing in the classroom or students may complete it for homework. 5. Terminology Quiz 20 min   Use the “Defining Local: Terminology Quiz” or the “Defining Local: Modified Quiz” to evaluate the comprehension and understanding of term and vocabulary used in this lesson. | |
| **Assessment** | **Evaluate with Formative Assessments**:   * Food System Game * AVM Chapter One Worksheet and Food Culture Assignment * “Shark Tank: Local Edition Agriculture Business Plan”- Concept Map and Career Plan   **Evaluate with Summative Assessments for the Lesson**:   * Terminology Quiz * NC 10% Mock Video Contest Project (optional) | |
| **Critical Vocabulary (Required)** | A short list of valuable terms is as follows (See the Instructional Outline category for the full terms and definitions):   1. Local Foods 2. Food Mile 3. Organic 4. Sustainable 5. Food System 6. Locavore 7. CAFO 8. Conventional Agriculture 9. Processed Food 10. Minimally Processed Food |
| **Community Engagement** | 1. Guest Speaker: A representative from a local CSA, Cooperative, Farmer’s Market (that is not a farmer), or a manager/owner of a locally sourced restaurant can visit the classroom for a discussion OR Skype/video conference with the class. 2. Students can post their “NC 10% Video” contest on YouTube or other social media outlets for feedback and extra credit. The top video will be displayed on the school and class website. |
| **Extension and Alternative Curriculum Activities/ Suggestions** | **Unit Extension Activities**: For examples of unit long extension activities, view the “Extension Activities for the Unit and Beyond” document found in the “Unit Materials.”  **Lesson One Extension**: NC 10% Campaign- Mock Video Contest (see directions above)  **Lesson One Alternative Options**:  Middle School Aged Students:   * Substitute for Animal, Vegetable, Miracle insert on CAFOs: Watch the following video, “Food Inc. CAFO” at <https://www.youtube.com/watch?v=YHBPpv01n-M>   -Discuss the source of the video and that it may be biased. Analyze the production of corn and CAFOs in reference to the mileage and fuel used in a CAFO system.   * Business Plan: Use the current business plan assignment for this lesson, but have the students analyze a current local business in your area, rather than create their own local business.   Elementary Aged Students:   * Remove the Explain, Elaborate, and Evaluate portions of the assignment and add in the following assignments:  1. Food System Collage- Local versus Processed:   -Have each student take a large sheet of paper and divide the paper into two main sections. Label one section as “Local” and the other section as “Processed.” Provide magazines and craft supplies. Tell students to place ten words, pictures, or objects on each side of the paper to represent the pros, cons, or related terms for local and processed foods. |
| **Modifications** | **Engage**   1. “Food for Thought” or Starter Questions: No modification 2. Trace your Perfect Plate: 3. Place students in pairs for the entire portion of this activity. Place students with disabilities in partner sets with students that can help to answer questions or assist in calculations. 4. Only have the student calculate the miles.   **Explore**   1. Terminology Overview: 45 min 2. Notes: If the student is able to use a computer, use the text to speech function on the computer and have the student follow along as the text is read to them, while they are using headphones (following along makes the activity reading and not just listening). Make sure they know how to pause so they can take notes, when needed. 3. Food System Roles and Game Cards: Place students in “mixed” groups to ensure that each students needing assistance are placed in groups with students capable of helping them and explaining answers to them. 4. Videos/Links: Provide the student with a computer, headphones, and the Terminology Notes to students that would benefit from watching the videos at their own pace. Give them a hard copy of the questions for discussion based on each video. 5. Animal, Vegetable, Miracle Chapter One Excerpt: 15 min   Allow students to take the excerpt home one day early so that they can read the article and return with any questions related to comprehension.  **Explain**   1. AVM Chapter One Discussion: No modification 2. Local Speaker Q & A: No modification   **Elaborate**   1. Food Culture Project: 2. Allow students to present to partners. 3. Decrease requirements in information about other countries needed for the PowerPoint. 4. Allow students to write the information rather than create an online presentation. 5. Shark Tank: Local Edition Agriculture Business Plan- Concept Map and Career Plan: Pair students with a group   **Evaluate (see Assessment)**   1. NC 10% Mock Video Contest Project: Pair students with a group 2. Terminology Quiz: Provide students with a word bank and a chance for the questions to be read-aloud. |
| **Alternative Assessments** | The Terminology Quiz with a possible word bank is provided in the appendix of this lesson plan. |
| **References and Supplemental Information** | J. Curtis, N. Creamer, and T. Thraves. (2010) From Farm to Fork: A Guide to Building North Carolina’s Sustainable Local Food Economy. A Center for Environmental Farming Systems Report.  Dunning, R. (2013) Research-Based Support and Extension Outreach for Local Food Systems. Center for Environmental Farming Systems, North Carolina.  Martinez, Steve, et al. (2010) *Local Food Systems: Concepts, Impacts, and Issues*, ERR 97, U.S. Department of Agriculture, Economic Research Service.  Videos in Presentation:  -Field To Fork: Episode 2 “Food Miles” <http://www.youtube.com/watch?v=b7rn5hH5XN8>  -Supervalue: A Look at Food Miles and Waste <http://www.youtube.com/watch?v=kjfYu0H49rM>  - TED Talk- Birke Baehr: What's wrong with our food system <http://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system?language=en>  -CAFO Lots: Are we allowed to see how our food is raised?  <http://www.youtube.com/watch?v=sFDpsUDE27A>  -Peterson Farm Brothers: Life of a Farm Intro and January Videos  <http://www.youtube.com/watch?v=9dpLnnVng7k&list=PLpniJUeAKfuo3AltgCzLLMYwxDg--Pt1q> |
| **Author Info** | **Kenan Fellow:**  April Pittman is an agriculture teacher at Gray’s Creek High School in Cumberland County, North Carolina. April teaches basic agriculture education courses, advanced agriculture studies, and two levels of horticulture, or plant science, to all grade levels. She has been teaching for seven years and loves the Gray’s Creek community. April graduated with a B.S. degree in Agriculture Education from North Carolina State University in 2008, a M.S. degree in Agriculture Education from North Carolina A & T University in 2012, and was recognized as a National Board Certified Teacher in 2014. Along with her two agriculture teaching partners, April advises the Gray’s Creek FFA Chapter. This chapter, ranked second out of over 300 FFA chapters in the state of North Carolina, focuses on community service, the development of career skills, and agriculture promotion activities.  April has a passion for helping others learn about gardening, agriculture, and the local foods movement. You may contact her with questions or feedback at aprilpittman@ccs.k12.nc.us.  **Mentors:**  SheaAnn Dejarnette is the Extension Agent for 4-H Youth Development in Robeson County and is fortunate to lead a great team that provides programming for youth between the ages of 5-18. She also serves on the Robeson County Fair Board and helps organize all youth shows and exhibits for the fair. Her programming includes school enrichment in STEM, health and nutrition, In-school and After-School clubs, Summer Fun, Camping, Animal Science, Volunteer Coordination, County Programs, Program Funding, Community Service Opportunities, and Organizational Partnering.  Shea holds a B.A. degree in Communications from Mary Baldwing College, a M.A. degree in Broadcast Journalism from Walden University, and is currently working in a doctoral program in Philosophy and Nonprofit Management with Walden University.Shea has a passion for helping young people meet their fullest potential. For any questions concerning 4-H or youth programs, contact her at [shea\_ann\_dejarnette@ncsu.edu](mailto:shea_ann_dejarnette@ncsu.edu).  Janice Fields serves as the Family and Consumer Science Agent in Robeson County, North Carolina. She is responsible for provide programming in the areas of Food Preparation, Nutrition and Wellness, Food Safety, Food Preservation and Housing. Janice is a strong supporter of the local foods movement- she even grinds her own local grain for flour in her daily bread making. Her 25 years of experience in the classroom have provided her with valuable skills for teaching the public about home canning and eating a nutritious, local diet. Janice would love to answer any questions related to canning or home food preparation and may be reached at [janice\_fields@ncsu.edu](mailto:janice_fields@ncsu.edu).  Casey Hancock is a Community Resource Development Extension Agent focusing on Local Foods and Tourism Development in Robeson County. Her main responsibilities include building capacity for the local food system through education for farmers and consumers alike, as well as helping to develop tourism opportunities through educational programming to support the local economy. Casey graduated with a BS in Environmental Studies and Sustainability from the University of Vermont. Before joining Cooperative Extension, she served with national non-profit FoodCorps in New Hanover and Brunswick counties (NC) to build and maintain school gardens, develop and teach garden-based nutrition and science lessons to 3rd graders, and support and feature local foods in the school cafeterias. She may be contacted via email at [casey\_hancock@ncsu.edu](mailto:casey_hancock@ncsu.edu).  Mack Johnson has served as the Horticulture Extension Agent in Robeson County, North Carolina for two years. Before entering the extension field, he obtained a Bachelor’s degree in Biology and farmed for 18 years with his family. Then, he served as Registered Sanitarian for the Robeson County Environmental Health Service for 14 years. He has a passion for home gardening and helping others find solutions to their gardening woes. He may be reached at [mack\_johnson@ncsu.edu](mailto:mack_johnson@ncsu.edu). |