Duration: 90 minutes, two days

Standards:

National Standards for FCS

8.1.1 Explain the roles, duties, and functions of individuals engaged in food production and services careers.
8.1.4 Analyze the effects of food production and services occupations on local, state, national, and global economies.
8.2.7 Demonstrate safe food handling and preparation techniques that prevent cross contamination from potentially hazardous foods, between raw and ready-to-eat foods, and between animal and fish sources and other food products.
8.2.10 Demonstrate safe and environmentally responsible waste disposal and recycling methods.
8.3.1 Operate tools and equipment following safety procedures and OSHA requirements.
8.5.1 Demonstrate professional skills in safe handling of knives, tools, and equipment.
8.5.2 Demonstrate professional skill for a variety of cooking methods including roasting, broiling, smoking, grilling, sauteing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.
8.5.3 Utilize weights and measurement tools to demonstrate knowledge of portion control and proper scaling and measurement techniques.
8.5.4 Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding a variety of foods.
8.5.5 Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.
8.5.6 Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.
8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.
8.5.8 Prepare various salads, dressings, marinades, and spices using safe handling.
8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation technique.

CT Career and Technical Education Performance Standards

Nutrition and Food Production

B.2 Explain the impact of physical, psychological, cultural, spiritual, and social influences on food choices.
B.3 Describe the impact of global and local events and conditions on the cost and availability of foods.
G.16 Demonstrate procedures applied to safety issues.
G.17 Demonstrate skills in safe handling of knives, tools, and equipment.

H.20 Explain and demonstrate methods for properly handling and storing both raw and prepared foods.
H.21 Explain and demonstrate techniques for food handling and preparation that prevent cross contamination between raw, cooked, and ready-to-eat foods and between animal or fish sources and other food products.
I.23 Describe and demonstrate techniques for operating tools and equipment following safety procedures.
K.28 Describe and demonstrate a variety of cooking methods such as roasting, baking, broiling, smoking, grilling, sautéing, frying, deep frying, braising, stewing, poaching, steaming, and convection.
K.29 Describe the fundamentals of time and temperature as they relate to cooking, cooling, and reheating of a variety of foods.
K.30 Describe and demonstrate the process for preparing various meats and poultry.
K.31 Describe and demonstrate the process for preparing various stocks, soups, and sauces.
K.32 Describe and demonstrate the process for preparing various fruits, vegetables, starches, and farinaceous items.
K.33 Describe and demonstrate the process for preparing various salads, dressings, marinades, and seasonings.
K.34 Describe and demonstrate the process for preparing baked goods and desserts.

Culinary and Food Production

A.1 Explain the roles, duties, and functions of individuals engaged in food production and service careers.
C.8 Operate and maintain tools and equipment following safety procedures and OSHA requirements.
E.13 Demonstrate professional skills in safe handling of knives, tools, and equipment.
E.14 Demonstrate professional skills for a variety of cooking methods including roasting, broiling, smoking, grilling, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.
E.15 Utilize weight and measurement tools to demonstrate knowledge of portion control and proper scaling and measurement techniques.
E.16 Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding a variety of foods.
E.17 Prepare various meats, seafood, and poultry using safe handling and professional preparation techniques.
E.18 Prepare various stocks, soups, and sauces using safe handling and professional preparation techniques.
E.19 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.
E.20 Prepare various salads, dressings, marinades, and seasonings using safe handling and professional preparation techniques
E.22 Prepare breads, baked goods, and desserts using safe handling and professional preparation techniques.

Description:

Agriculture has been a driver of climate change, but with its immense reach it can also be a part of the solution. "Climate-friendly" agriculture goes by many names - regenerative, sustainable, organic, real organic project, etc. In this lesson, students will unpack and compare what these words mean. In doing so they will discover the nuances and differences that exist across these terms, as well as where these agricultural techniques come from. Their cooking project will analyze the ingredients used through this lens as students decide how "climate-friendly" their meal actually is.

Objectives:

- Define various climate-friendly agriculture labels like regenerative, sustainable, organic, etc.
- Review the origins of the climate-friendly agricultural techniques outlined.
- Break the ingredients of a meal down in terms of how their food has been labeled/marketed and what those terms mean.

Vocabulary:

- Regenerative agriculture- a holistic way of farming that improves soil fertility and biodiversity using a variety of sustainable practices
- Sustainable agriculture- a system of farming that strives to provide the resources necessary for present human populations while conserving the planet's ability to sustain future generations
- Organic- a USDA certification that states food has not been produced using prohibited substances, including antibiotics, synthetic fertilizers and pesticides, and GMOs
- Real Organic Project- a farmer-led movement that offers an alternative organic certification other than USDA certified organic
- Permaculture- an approach to land management and settlement design that adopts arrangements observed in flourishing natural ecosystems

Materials

- Kitchen equipment & ingredients for recipes

Recipe:

- **Chicken & Sausage Gumbo**
- **Jalapeno Cornbread Muffins**
- **Cajun Potato Salad**

- Creole Coleslaw

Procedure:

Day One:

1. Introduce the lesson: “We need agriculture in order to eat. But there are all kinds of ways to produce the food we need. Some of them are great for the environment, and some are harmful. What are some of the ways that agriculture can harm the environment?” As the students answer, jot some of the answers on the whiteboard.

2. Show the video: Climate Resilient Agriculture
   Ask: “What are some farming methods that could reduce the negative impact of agriculture on the environment?”

3. Divide the class into small groups and assign each group one of the climate friendly methods of agriculture to research: regenerative, sustainable, organic, real organic project, and permaculture. Distribute the worksheets Climate Friendly Agriculture Worksheet. As the students work together, circulate through the room, helping them with resources and understanding the questions on the worksheet.

4. Have students give presentations on their research, using the whiteboard or smartboard. At the end of each presentation, facilitate a brief discussion on its pros and cons.

5. Summarize the findings of the presentations, and encourage students to share any insights or questions they may have.

Day Two:

1. Have the students get ready for a cooking class and bring them into the cooking area. Before distributing the recipes, have the ingredients set up on the counters. Have fresh (preferably local) tomatoes next to a can of tomatoes, frozen spinach next to fresh spinach, canned white beans next to dry beans, etc. Have the students look at the packaging for each of the items, including the meat and eggs and facilitate a discussion on the food’s origins and marketing. Have them look at how each is packaged. What colors are used? What quality of the item is the packaging highlighting? Which items use the most processing? Are any of them “organic”? “Natural”? “Healthy”? What does that mean to you? What does that mean to the consumer? Where, geographically, does the food come from? Does it have a lot of “food miles”?

2. Distribute the recipes. Have each group separate the items they think were produced using climate friendly practices, and which they think were produced by conventional/industrial methods. As they set up their mise en place, circulate among the groups and talk with them about their ingredients and how they were produced.

3. As the students prepare the meal, ensure they are being mindful of their waste, with containers for recycling, usable trim, composting, and non usable waste. When everything is finished and the students have cleaned up, lead a discussion on how the food relates to its packaging, farm practices, and processing.

4. For a summative assessment, distribute the essay assignment for homework.
   Climate Friendly Agriculture Essay

Assessment(s):

- Formative assessment: **Climate Friendly Agriculture Worksheet**
- Summative assessment: **Climate Friendly Agriculture Essay**

Resources:

- **Climate Resilient Agriculture**
- **Chicken & Sausage Gumbo**
- **Jalapeno Cornbread Muffins**
- **Cajun Potato Salad**
- **Creole Coleslaw**
- **Climate Friendly Agriculture Essay**
- **Climate Friendly Agriculture Worksheet**

Extensions:

- Invite a local farmer to come and talk to the class about their farming practices.
- Go on a field trip to a local farm or orchard and observe farming practices.
- Create visuals for each type of farming, showing the benefits of utilizing farming methods that reduce the impact of food production on climate.