

Duration: 90 minutes, two days

Standards:

National Standards for FCS

- 8.1.4 Analyze the effects of food production and services occupations on local, state, national, and global economies.
- 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.
- 8.3.6 Identify a variety of types of equipment for food processing, cooking, holding, storing, and serving, including hand tools and small ware.
- 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 and professional preparation techniques.
- 8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.

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.
- 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.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

B.5 Demonstrate good personal hygiene and health procedures and report symptoms of illness.

B.6 Demonstrate proper purchasing, receiving, storage, and handling of both raw and prepared foods.

B.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.

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.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:

Waste is an apparent part of our food system and a contributor to food's impact on climate change. This lesson focuses on the EPA's food recovery hierarchy, and how each step along the continuum works to reduce the amount of food we waste. Students will then cook a "waste-free" meal, deciding as a group how they will deal with waste as they cook - and thinking deeply about any waste that might have occurred at a different point in their food journey.

Objectives:

- Evaluate each step in the EPA's food recovery hierarchy.
- Consider how food waste affects the climate.
- Analyze how waste is dealt with in a given meal.

Vocabulary:

- Food waste- food that is fit for consumption but consciously discarded at the retail or consumption phases

- Food Recovery Hierarchy- The Food Recovery Hierarchy offers five viable solutions to the U.S. food waste problem: reducing the source, feeding hungry people, feeding animals, providing wasted food for industrial use, and composting
- Landfill- a site, also known as a tip, dump, rubbish dump, garbage dump, or dumping ground, for the disposal of waste materials
- Compost- a mixture of ingredients used as plant fertilizer and to improve soil's physical, chemical, and biological properties. It is made by decomposing plant and food waste, recycling organic materials, and manure

Materials

- Kitchen equipment & ingredients for recipes

Recipe:

-  **Candied Orange Peel**
-  **Carrot Top Pesto**
-  **Carrot Soup with Orange and Tarragon**
-  **Gingerbread Cakes**

Procedure:

Day One:

1. Introduce the lesson: "Let's talk about food waste. I want you to think back on what you've eaten recently- the last few days or so. Where has food been wasted? For instance, if I were making sandwiches and cut off the crusts, I'd throw out the crusts. If I were making soup I might be throwing out onion skins and carrot peels. And if I bought an avocado, and it ripened before I could use it, I'd end up throwing out the mushy brown avocado. Think about how much food you've seen wasted in your house, or even in the cafeteria, and jot some of those instances down." Give the students a few minutes to think and record, and then get their attention again. Ask the students to share what they've remembered, and ask if the waste could have been avoided. After a brief discussion, introduce the  **Food Recovery Hierarchy Chart**
2. Show the presentation:  **CC-1.04 Food Waste Slides**

- When finished, divide the class into four groups. Distribute the assignment:

 **EPA Food Recovery Pyramid Assignment** Assign one topic to each group and have them begin to do their research for it. Instruct them that they will be sharing their findings with the class, so should have a way to communicate their findings. Allow the students who need to contact agencies to use their phones or the classroom phone while in class. Circulate through the groups as they are working. At the end of the period, have each group share their findings. Collect the assignment forms for summative grading.

Day Two:

- Project the  **Food Recovery Hierarchy Chart** on the board and remind the students of each step. Divide the students into cooking teams and distribute the recipes evenly. Bring the students into the prep room and instruct them to set up their stations. Remind them to be careful with how they work with their ingredients and what they do with trim—the goal is to have zero waste.
- As the students cook, check their mise en place and their stations to ensure they are not unnecessarily wasting food. When the meal is done, have each group talk about how they dealt with their waste.
- Give the assessment:  **EPA Food Recovery Hierarchy Quiz**

Assessment(s):

- Formative assessment: students will work in groups to complete the assignment:
 **EPA Food Recovery Pyramid Assignment**
- Summative assessment:  **EPA Food Recovery Hierarchy Quiz**

Resources:

-  **CC-1.04 Food Waste Slides**
 -  **EPA Food Recovery Pyramid Assignment**
 -  **Food Recovery Hierarchy Chart**
 -  **EPA Food Recovery Hierarchy Quiz**
 -  **Candied Orange Peel**
 -  **Carrot Top Pesto**
 -  **Carrot Soup with Orange and Tarragon**
 -  **Gingerbread Cakes**
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Extensions:

- Include extensions or extra tidbits of information a teacher would want to convey to students
 - Example: When using a mortar and pestle to make pesto, make the connection with students that *pestle* and *pesto* come from the same root word in Italian *pestare* meaning to crush or to pound.