



Ingredients and Seasonality

Unit 3: The Science and Art of Baking

Duration: 45-90 minutes, two days

Standards:

National Standards for FCS

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.

8.5.10 Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.

CT Career and Technical Education Performance Standards

K.34 Describe and demonstrate the process for preparing baked goods and desserts.

Description:

Seasonal ingredients can enhance the flavor and freshness of baked goods. This lesson emphasizes using seasonal and locally sourced ingredients in baking. Students will explore how seasonal variations in ingredients like fruits, nuts, and spices affect recipe outcomes and sustainability.

Objectives:

- Mastering the science of baking, including factors like temperature, time, moisture, etc.
 - Understanding the use of various flours, such as teff, oat, bean, spelt, and nut flours.
 - Baking various products, including cookies, cakes, breads, pastries, and savory options.
 - Implementing both natural and commercial leavening techniques.
 - Developing consistency in baking.
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Vocabulary:

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| ■ Local Food - foods produced and sold within a 400 mile distance to consumers | exhausting natural resources or causing severe ecological damage |
| ■ Sustainable - capable of being maintained at a steady level without | ■ Vegan - a person who does not eat any food derived from animals and who |

typically does not use other animal products

Materials:

- Ingredients & kitchen equipment for recipes
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Recipe:

- [Rye Bread Recipe](#)
 - [Vegan Apple Pie Bread](#)
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Procedure:

DAY 1

1. Begin by discussing the terms “local” and “sustainable” to help students differentiate between the two. Create loose definitions of each term with the class to help inform the rest of the lesson. Note that the [USDA defines local food](#) as being produced within 400 miles from where it is being consumed.
 - a. Option to make a Venn diagram and have the class compare the terms local and sustainable.
2. Have students imagine strawberries purchased at a grocery store like Driscoll’s. Point out that a company like Driscoll’s might meet a strict definition of local if you lived close to a farm they operated, but could they be considered sustainable? For reference, Driscoll’s is the largest producer of strawberries in the world and has had numerous claims against them for [unfair labor practices](#), which would most likely not meet the “sustainable” label.
3. Use the [Local Food Realities Article](#) and [Local and Sustainable Article](#) to guide the discussion. Ask students to compare and contrast the articles, then draft a local and sustainable foods list. This can also be a group activity where students share their findings and discuss regional variations.
 - a. Make sure students note both rye and apples on their lists. Note the importance of these ingredients in the New England food system.
4. Work through the [Rye Bread Recipe](#), allowing students to observe and discuss the importance of each ingredient. Discuss how this bread recipe can be adapted using seasonal or local ingredients (e.g. different flours, honey from local producers). While preparing, prompt students to consider their connection to the ingredients, focusing on sustainability and community.
 - a. Note: You can experiment with bulk fermenting the Rye Bread in the refrigerator and baking it on day 2.

DAY 2

1. Begin by reviewing Day 1's concepts to reinforce sustainability and local food sourcing. Encourage students to reflect on how the use of seasonal ingredients affects not only flavor but also the recipe's environmental footprint.
 2. As students prepare the [Vegan Apple Pie Bread](#), engage in a discussion about the benefits of plant-based ingredients in baking. Have a tasting session where students can sample the Rye Bread and the Apple Pie Bread, discussing how the local ingredients influence the flavors.
 3. If there is time, check in on the progress of the class bake sale. Students are using skills learned in the unit to organize a bake sale to support a local organization working on food system resilience.
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Assessment(s):

- Formative assessment: Students engage in a class discussion to differentiate the vocabulary words "local" and "sustainable".
- Summative assessment: Students prepare two local and sustainable recipes.

Resources:

- [USDA defines local food](#)
 - [unfair labor practices](#)
 - [Local Food Realities Article](#)
 - [Local and Sustainable Article](#)
 - [Rye Bread Recipe](#)
 - [Vegan Apple Pie Bread](#)
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Extensions:

- Students create recipes using only local and sustainable ingredients.