



Dairy: NE's #1 Food

Unit: New England Food and Farming

Duration: 90 minutes, two days

Standards:

National Standards for FCS

8.5.7 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.

CT Career and Technical Education Performance Standards

E.19 Prepare various fruits, vegetables, starches, legumes, dairy products, fats, and oils using safe handling and professional preparation techniques.

Description:

There are more than 1000 dairy farms in New England and dairy is a major source of revenue for all the states in NE. This lesson reviews the history of dairy production in New England, from individual cows owned by families, smaller family farms, to the worker cooperatives of today. Students will trace these different lineages and unpack where certain dairy products originated across the region. They might find that some are easier to learn about than others. Students will examine different products that represent different stakeholders in the New England Dairy industry (Cabot Cheese, Cato Corner cheese, Hood Milk, Garelick farms, and other smaller dairy producers like Sweetgrass Creamery, Jasper Hill, etc).

Objectives:

- Review the history of dairy production from colonization to present day.
 - Compare the ways that different dairy products are made across the region.
 - Make a macaroni and cheese featuring New England dairy products, experimenting with different melting characteristics and roux properties.
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Vocabulary:

- Bechamel sauce- also known as white sauce - a cooked mixture of butter, flour, and milk. It is one of five mother sauces
- Cooperative farm- a farm that is run in cooperation with others in the purchasing and using of machinery, stock, etc, and in the marketing of produce through its own institutions
- Dairy Farms- also known as "dairying" is a branch of agriculture that encompasses the breeding, raising, and utilization of dairy animals, primarily cows, for the production of milk and the various dairy products processed from it
- Mother sauces- any one of five basic sauces (bechamel, veloute, tomato,

hollandaise, espagnole), which are the starting points for making various secondary sauces or "small sauces"

- Roux- mixture of flour and fat cooked together and used to thicken sauces. Roux is typically made from equal parts of flour and fat by weight

Materials:

- Ingredients and kitchen equipment for [Mac & Cheese for Kids and Grow...](#)

Recipe:

- [Mac & Cheese for Kids and Grown-ups-YF Lab](#)

Procedure:

Day One:

1. Display this graphic from the [USDA's Economic Research](#) service that shows historic consumption of dairy in America and analyze as a class. Some takeaways should include that we are still eating a lot of dairy, but our consumption of "fluid" milk has decreased considerably since this study was founded in 1972. Lead a discussion as to why that might be the case: alternative milks, costs, and float the idea there are far less dairy farms than before.
2. Ask students if they have seen or been on a dairy farm. Some may have, but chances are they have not. If you live in a rural area, ask questions about what they might have noticed about the farming community in their area, or stories they might have heard about past farms. Show them the article on dairy farm decline from [Land for Good](#).
3. Explain that today there are more than 1000 dairy farms in New England, but in the 1950's there were 30,000 commercial dairy farms here. Since then, many small family farms have joined with other farms to share processing, marketing, and distribution of their milk and products. Show the presentation: [NEFF - 1.06 Dairy NE's #1 Food Slides](#)
4. Explain that as a class we will look at where some of those 1,000 dairy farms are, and what they are producing, looking at both family farms and cooperatives. Distribute the assignment and map of New England: [Dairy Farming in New England Assignment](#)
[Maps of New England](#)

5. Project the assignment and the map of New England on the board. Go over the aspects of each dairy that students will be researching. There are 14 farms on the assignment, so depending on the size of the class, divide the students into small groups, or allow them to work independently.
6. When the students finish, have them share their findings. Mark where each farm is on the map of New England on the board. On a SmartBoard or a whiteboard, write the name of each state, and under that, list the products that each farm/coop produces. When done, discuss any similarities or discrepancies with the class. Collect the assignment as a formative assessment.

Day Two:

1. Have a variety of cheeses to display on the counter. Some hard, some soft and semi-soft, some aged. Have a mixture of mild and strong flavors.
Suggestions:
 - a. Mild cheddar, aged mozzarella, monterey jack, muenster
 - b. Sharp cheddar, provolone, fontina, swiss, gruyere
 - c. Feta, parmesan, blue, aged brie
2. Review the method for making a bechamel sauce (roux + milk or cream). Slice or crumble each cheese, and allow the students to feel its texture and moisture as well as taste each one.
3. Discuss:
 - a. Which ones will melt the best?
 - b. Which ones will add the most flavor?
 - c. Which would be good paired together in a sauce?
 - d. Which ones would you think would *not* pair well together?
4. Divide the students into cooking teams and distribute the recipe and  **Macaroni and Cheese Evaluation Sheet**. Assign variations to each group and have the students answer the first set of questions. Then have them set up their mise en place as they put a pot of water on to boil.
5. Circulate among the teams to ensure that they understand their variation and are on task and on time.
6. When all the variations are done, each team should taste their mac and cheese first and complete their  **Macaroni and Cheese Evaluation Sheet**. Then they should taste each variation.
7. Discuss how the dishes came out. Which variation did the students like most? Which was the least popular? How did the variation with the whole wheat roux turn out? Did it taste different? Have a different texture? How about the variation with the more cooked roux?

8. Collect the Evaluation Sheets as a summative assessment.
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Assessment(s):

- Formative assessment:  [Dairy Farming in New England Assignment](#)
- Summative assessment:  [Macaroni and Cheese Evaluation Sheet](#)

Resources:

-  [Mac & Cheese for Kids and Grown-ups-YF Lab](#)
 - [USDA's Economic Research](#)
 - [Land for Good](#) article
 -  [NEFF - 1.06 Dairy NE's #1 Food Slides](#)
 -  [Dairy Farming in New England Assignment](#)
 -  [Maps of New England](#)
 -  [Macaroni and Cheese Evaluation Sheet](#)
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Extensions:

-  [ULTIMATE MAC & CHEESE | Jamie Oliver](#)