Madison Public Schools

Bake Shop - Unit 1 - Chemistry of Baking

Unit Focus

In Unit 1 of Bake Shop, students will explore how the art of baking is actually science in action. Although students may have had prior foods courses, the unit will begin with basic food sanitation and safety. Students will also learn how to read a recipe in order to come out with the best results every time. Following this, students will explore the chemistry behind their favorite baked treats and learn about the common mishaps and pitfalls that bakers encounter. How can students avoid these mishaps while ensuring accuracy in a recipe? The unit will culminate in a technical challenge that will require students to recreate and prepare a recipe that is missing some elements.

Stage 1: Desired Results - Key Understandings

Standard(s)

Connecticut Goals and Standards
Family and Consumer Science: 12

- Demonstrate selecting, using, and maintaining food production equipment; *8.21*

Family and Consumer Sciences (CTE)

- Determine conditions and practices that promote safe food handling, production, and consumption. *FCS.N.E.11*
- Identify characteristics of major food borne pathogens, their role in causing illness, foods involved in outbreaks, and methods of prevention. *FCS.N.E.12*
- Describe food borne illness as a health issue for individuals and families. *FCS.N.E.13*
- Determine education and training requirements and opportunities for career paths in food production and services. *FCS.N.F.14*
- Demonstrate procedures applied to safety issues. *FCS.N.G.16*
- Explain and demonstrate methods for properly handling and storing both raw and prepared foods. *FCS.N.H.20*
- 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. *FCS.N.H.21*
- Demonstrate procedures for cleaning and sanitizing small equipment, serving dishes, glassware, and utensils. *FCS.N.H.22*

Transfer

T1 Explore and hone techniques, skills, methods, and processes to create and innovate
T2 Develop a product/solution that adheres to key parameters (e.g., cost, timeline, restrictions, available resources and audience).

Meaning

Understanding(s)	Essential Question(s)
U1 Food safety is everyone's responsibility in minimizing the risk of food borne illnesses. Knowledge of one's personal hygiene and properly washing one's hands are vital in minimizing food contamination and preventing food borne illnesses. **U2** Proper identification, care and cleaning of baking tools will maintain performance and increase efficiency in cooking lab. **U3** Ingredients all have specific functions within a recipe and serve a purpose to the overall taste, texture and appearance of the baked good. **U4** Both measuring accuracy and mixing method greatly affect the outcome of baked goods (taste, texture, appearance).	**Q1** How can cooking skills and techniques be translated into baking? **Q2** What role does each ingredient play in the baking process? **Q3** How do various mixing and baking methods affect the outcome of the baked good?

Stage 1: Desired Results - Key Understandings

- Describe and demonstrate the process for preparing, eggs, grains, and batter products. *FCS.N.K.35*
- Demonstrate professional skills in safe handling of knives, tools, and equipment. *FCS.C.E.13*
- Utilize weight and measurement tools to demonstrate knowledge of portion control and proper scaling and measurement techniques. *FCS.C.E.15*
- Prepare breads, baked goods, and desserts using safe handling and professional preparation techniques. *FCS.C.E.22*
- Demonstrate professional plating, garnishing, and food presentation techniques. *FCS.C.E.24*

Student Growth and Development 21st Century Capacities Matrix

Critical Thinking

- Analyzing: Students will be able to examine information/data/evidence to make inferences and identify possible underlying assumptions, patterns, and relationships. *MM.1.2*
- Synthesizing: Students will be able to thoughtfully combine information/data/evidence, concepts, texts, and disciplines to draw conclusions, create solutions, and/or verify generalizations for a given purpose. *MM.1.3*

Self-Direction

- Decision Making: Students will be able to propose ethical, responsible decisions based on data/evidence and context. *MM.4.3*

Acquisition of Knowledge and Skill

Knowledge	Skill(s)
K1 Procedure for activating yeast. **K2** Differences between breads, doughs and batters **K3** Measuring techniques **K4** Cookies are classified according to the shaping and baking directions of the recipe.	**S1** Demonstrate safety and sanitation practices in bakery. **S2** Demonstrate mixing and preparation methods used to prepare various types of baked goods. **S3** Demonstrate how to measure dry, moist and liquid ingredients by either weight or volume. **S4** Demonstrate proper use of various bakeshop equipment, tools and smallware. **S5** Convert a baking formula to a new yield. **S6** Follow a recipe in baking an item.