Unit 1: Food Science & the Knowledgeable Cook

Content Area: **Family and Consumer Sciences**
Course(s): **Culinary Arts**
Time Period: **September**
Length: **8 blocks**
Status: **Published**

Transfer

Knowledge of food science principles can make you a better cook.

Enduring Understandings

Knowledge of basic food science principles makes you a better cook.

Lack of awareness of laws and rules may lead to unsafe situations and chaos.

Personal actions have an effect on your safety and well being.

Strong kitchen skills and learning habits can promote achievement and improve performance and outcomes.

Lifelong learning increases knowledge and can improve the quality of life.

Essential Questions

How does studying food science make me a better cook?

Why are food handling techniques an important part of food preparation?

How can basic culinary skills help me live a better life in the 21st Century?

How can I produce an edible, safe food product?

How will knowledge of basic food science principles foster the creation of high quality food products?

Why is lifelong learning important for the serious 21st century cook?

Learning Objectives

Identify how knowledge of food science can improve cooking skills.

Explain the role science plays in food preparation.

Explain the affect of temperature and timing on food preparation.

Explain the importance of proper proportions of ingredients in food preparation.

Identify how enzyme activity affects food.

Define types of emulsions and when emulsions are used in food preparation.

Identify harmful food bacteria and its prevention in food preparation.

Identify microorganisms that may cause food borne illness and how they can be prevented.

Practice safe work habits in the kitchen.

Explain the need for, and advantages of, lifelong learning.

Content

Food Science

Safety

Sanitation

Danger Zone

Salmonella

E Coli

Measuring

Units

Volume

Weight

Meniscus

Pinch
Thermometer
Calibrate

Maillard Reaction
Cooking time
Cooking temperature
Emulsion
Immiscible
Emulsifying agent
Enzymes

Standards

1.2	Demonstrate transferable knowledge, attitudes, and technical and employability skills in school, community and workplace settings.
2.4	Evaluate the effects of technology on individual and family resources in a global context.
8.1.1	Explain the roles, duties, and functions of individuals engaged in food production and services careers.
8.1.6	Analyze the role of professional organizations in food production and services.
8.2	Demonstrate food safety and sanitation procedures.
8.2.1	Identify characteristics of major food-borne pathogens, their role in causing illness, foods involved in outbreaks, and methods of prevention.
8.3	Demonstrate industry standards in selecting, using, and maintaining food production and food service equipment.
8.3.2	Maintain tools and equipment following safety procedures and OSHA requirements.

8.5	Demonstrate professional food preparation methods and techniques for all menu categories to produce a variety of food products that meet customer needs.
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, sautéing, pan frying, deep frying, braising, stewing, poaching, steaming, and baking using professional equipment and current technologies.
8.5.4	Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating, and holding of a variety of foods.
8.5.12	Demonstrate professional plating, garnishing, and food presentation techniques.
8.5.14	Demonstrate cooking methods that increase nutritional value, lower calorie and fat content, and utilize herbs and spices to enhance flavor.
9.2	Apply risk management procedures to food safety, food testing, and sanitation.