W 476-C
6-9 YEARS IN PROJECT

Food Science

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For more information, contact:

Jennifer Richards, Tennessee 4-H Youth Development
Mark Wenke, Department of Food Science and Technology
Dwight Loveday, Department of Food Science and Technology
Melody Fagan, Department of Food Science and Technology
James William Swart, Tennessee 4-H Youth Development

Basics of Food Science

- Research specific food science positions, including specific companies, job titles, salary, roles and responsibilities, and prerequisites.
- Interview a food science professional or perform a job shadow in the food science field.
- Distinguish between specialized food scientist careers and evaluate the differences.
- Complete an in-person tour of either a food science company or a food science (FDSC) or food science and technology (FDST) program at a local college or university.

Food Microbiology

- Research specific food microbiology positions, including specific companies, job titles, salary, roles and responsibilities, and prerequisites.
- Perform a job shadow in the food microbiology field.
- Prepare a food product fermented with beneficial microorganisms.
- Explain how the FDA, USDA and CDC trace food outbreaks.
- Choose a recent food outbreak to research (cause, impact, etc.).

Food Laws and Regulations

- Research specific food safety and regulatory positions, including specific departments, job titles, salary, roles and responsibilities, and prerequisites.
- Research and define Code of Federal Regulations (CFR).
- Analyze how Hazard Analysis Risk-Based Preventative Controls (HARPC) and Food Laws coincide, using the CFR.
- Explain the weaknesses of early food laws.
- Synthesize a HARPC plan using internet resources.

Food Chemistry

- Research specific food chemistry positions, including specific companies, job titles, salary, roles and responsibilities, and prerequisites.
- Design a food chemistry experiment to study starch gelatinization using online resources.
- Define the various types of emulsions in food.
- Differentiate between and explain the various pigments in food.
- Examine the various methods of denaturing proteins.
- Identify the necessary components and conditions for the Maillard Reaction to occur.

Food Sensory Science

- Explain discrimination or difference sensory analysis.
- Explain descriptive sensory analysis.
- Explain affective, or hedonic sensory testing.
- Research the triangle test, paired-comparison test and duo-trio test.
- Identify the limitations of various testing methods.
- Design your own sensory test.

Food Science, Safety and Sanitation in the Kitchen

- Research various culinary science positions, including specific companies, job titles, salary, roles and responsibilities, and prerequisites.
- Analyze nutrition principles as they apply to culinary science.
- Determine how cooking techniques affect the nutrition of the various food groups.
- Compare various global cuisines and the predominate ingredients in those cuisines.

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