Family and Consumer Sciences Assesments (FCSA)

Food Science Study Guide

Macronutrients and Food Preservation

- What are macronutrients, and why are they important in human nutrition?
- List the three main macronutrients and their primary functions.
- Define food preservation and its significance.
- Identify food preservation techniques and explain how each works.

Enzymes and Food Safety

- Enzymes in Food Processing
- Explain the role of enzymes as catalysts in chemical reactions of food.
- What is the primary function of enzymes in food processing?
- How do factors like pH and temperature influence enzyme activity in food processing?

Food Safety

- What are the common sources of foodborne illnesses?
- Describe the "danger zone" for food and why it's important in food safety.
- Which pathogen is often associated with contaminated poultry?
- What is the ideal temperature range for storing perishable foods in a refrigerator?
- Explain the significance of obtaining a food manager's sanitation certification.

Carbohydrates, Fats, and Proteins

- What is the primary function of carbohydrates in the human body?
- Discuss photosynthesis as the process responsible for carbohydrate production.
- How do carbohydrates function as caramelizing agents in food production?
- Differentiate between saturated and unsaturated fats.
- What role do fats primarily serve in food production?
- How can the oxidation of fats in food be controlled?
- Explain the processes of protein denaturation and coagulation.
- What functions do proteins serve in food production?
- How does temperature affect proteins in food production and storage?

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Vitamins and Minerals

- Discuss the functions of vitamins and minerals in food production.
- How do food production processes affect water-soluble vitamins compared to fat-soluble vitamins?
- Which government agency is responsible for food safety regulation in the United States?

Water Properties and Functions

- Identify the properties of water.
- How does hard water differ from soft water in its effects on food production?
- What is the function of water in food production?

Bacteria Destruction, Packaging, and Labeling

- Describe common methods for destroying or inactivating harmful pathogens in foods.
- What is the main difference between food intoxication and food infection?
- Explain the importance of packaging and labeling guidelines in food science.
- What information is required on a food label?
- Discuss the reasons for food preservation.
- Compare methods of food preservation, including dehydration, canning, and freezing.