



# Family and Consumer Sciences Education 2009-2010 Standards



Industry Sector: Hospitality, Human Services and Education

Cluster: Human Services

Pathway: Consumer Services

The Human Services Cluster prepares individuals for employment in career pathways related to families and human needs.

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## Food Science, Dietetics and Nutrition

### I. What is Food Science

#### A. History

1. Historical Highlights
2. Recent Contributions
3. Government Agencies
  - a. Food and Drug Administration (FDA)
  - b. United States Department of Agriculture (USDA)
  - c. President's Council on Food Safety
  - d. International Agencies

#### B. Areas

1. Food Production
  - a. Government Regulations
  - b. Practicing Cleanliness
  - c. Handling Food with Care
2. Food Processing
  - a. Government Regulations
  - b. Practicing Cleanliness
  - c. Handling Food with Care
3. Food Preparation
  - a. Government Regulations
  - b. Practicing Cleanliness
  - c. Handling Food with Care
4. Evaluation of Food
5. Utilization of Food

#### C. Benefits

1. Protecting Health
2. Gaining Practical Skills

#### D. Careers (i.e. : Research and Development Specialist; Food Scientist)

#### E.

## **II. The Laboratory**

- A. Laboratory Equipment
  - 1. Types of Equipment
    - a. Containers
    - b. Thermometers
    - c. Balances
  - 2. Calibration Techniques
    - a. Balances
    - b. Thermometers
- B. Laboratory Safety
  - 1. Safety Procedures
  - 2. Working in the Laboratory
  - 3. Preventing Food borne Illness
- C. Measurement
  - 1. Accuracy
  - 2. The Metric System
  - 3. Measuring
    - a. Length
    - b. Volume
    - c. Mass
    - d. Conversions
  - 4. Recording Data
    - a. Accuracy
    - b. Units of Measure

## **III. Scientific Evaluation**

- A. Scientific Method
  - 1. Forming a Hypothesis
  - 2. Experimenting with Variables
  - 3. Analyzing Data
    - a. Developing Data Tables
    - b. Using Data for Calculation
    - c. Using Data to Create Graphs

4. Reporting Results
  - a. The Scientific Lab Report
5. Developing and Revising Theories
6. Conducting Research
  - a. Choosing a Topic
  - b. Researching Information

#### **IV. Sensory Evaluation**

- A. Influences on Food Choices
  1. Culture and Geography
  2. Emotions and Psychology
  3. Health Concerns
  4. Food Costs
  5. Technology
- B. Sensory Characteristics (i.e. : Flavor, Appearance, Odor, Texture, other)
- C. Sensory Evaluation
  1. A Scientific Approach
  2. Maintaining the Safety of Food
  3. Uniform Evaluations
    - a. Three Digit Numbering System
    - b. Contrast Affect
    - c. Environmental Aspects
  4. Objectivity

#### **V. Basic Food Chemistry**

- A. Elements, Compounds and Mixtures
  1. Matter
    - a. Definition of Matter
    - b. Chemical and Physical Properties of Matter
    - c. Classification of Mixtures and Pure Substances
    - d. Chemical Symbols and Formulas
- B. Chemical Reactions
  1. Atoms
    - a. Structure

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- b. Atomic Mass
- 2. Compounds
  - a. Ionic Bonding
  - b. Covalent Bonding
  - c. Chemical Equations
- 3. Physical Changes
  - a. Phase Changes
  - b. Reversible Physical Changes
- 4. Chemical Changes
- C. Energy
  - 1. Forms of Energy
    - a. Molecular Motion
    - b. Specific Heat
  - 2. Methods of Heat Transfer
    - a. Conduction
    - b. Convection
    - c. Radiation
    - d. Induction
  - 3. Factors Affecting Rates of Reaction
    - a. Temperature
    - b. Surface Area
    - c. Heating Media
  - 4. Energy Needs and Health
    - a. The Metabolic Process
- D. Microorganisms and Food borne Illness
  - 1. Food Intoxication
  - 2. Food Infections
  - 3. Animal Parasites
  - 4. Viruses
  - 5. Other Causes
  - 6. Prevention

## **VI. Water**

- A. Structure of Water
  - 1. Polar Covalent Bonds
  - 2. Hydrogen Bonds
- B. Properties of Water
  - 1. Freezing and Melting
  - 2. Boiling and Condensing
  - 3. Sublimation
  - 4. Surface Tension
- C. Functions in Food
  - 1. Water Content
  - 2. Heat Transfer
  - 3. As a Solvent
  - 4. Dehydration
    - a. Benefits
    - b. History
    - c. Principles
- D. Nutritional Value
  - 1. Water as an Essential Nutrient
  - 2. Recommended Intake
  - 3. Role in Body Processes
  - 4. Current Issues

## **VII. Acids and Bases**

- A. Ionization of Water
- B. Defining Acids and Bases
- C. The pH Scale
  - 1. Measuring
  - 2. Strength
  - 3. Neutralization
- D. Concentrations
  - 1. Molarities
  - 2. Titration

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- 3. Concentration
- E. Acids and Bases in Food Preparation
  - 1. Role in Leavening
  - 2. Role in Food Preservation
- F. Acids and Bases in the Body
  - 1. Blood pH
    - a. Buffers
  - 2. Roles in Digestion
- VIII. The Science of Nutrition**
  - A. History of Nutrition
    - 1. Early Discoveries
  - B. Elements of Nutrition
    - 1. Essential Nutrients
  - C. Nutritional Guidelines (\*CA)
    - 1. Recommended Dietary Guidelines
    - 2. Food Guide Pyramid
    - 3. Current Research
  - D. Food Labeling (\*CA)
    - 1. Governmental Guidelines
      - a. Nutrition Facts Panel
      - b. Label Descriptors
      - c. Ingredient Listings
  - E. Nutrition for Life
    - 1. Maintaining Nutritional Value
    - 2. Food Safety Concerns
  - F. Digestion
    - 1. Nutrient Digestion
      - a. Mouth
      - b. Stomach
      - c. Small Intestines
    - 2. Nutrient Absorption
  - G. Metabolism

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1. Metabolic Process
2. Influences on Metabolism
3. Metabolism and Weight Management

## H. Eating Disorders

1. Anorexia
2. Bulimia
3. Others

## I. Additives and Nutrition

1. Definition
2. Regulations
3. Usage
4. Concerns
  - a. Allergies
5. Value
6. Benefits of Use

## **IX. Carbohydrates**

### A. Simple Carbohydrates

1. Carbohydrate production
2. Food Sources
3. Function in Food Preparation
4. Nutritional Value

### B. Complex Carbohydrates

1. Types
2. Food Sources
3. Functions in Food Preparation
4. Nutritional Value

### C. Nutritional Value

1. Functions in the Body
2. Essential Nutrients
3. Cholesterol
4. Low-Fat Options
5. Fiber

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## 6. Current Issues

### **X. Lipids**

#### A. Chemical Structure

1. Structure
2. Saturated and Unsaturated

#### B. Properties

1. Energy Value
2. Solubility
3. Melting Range
4. Solidification Point

#### C. Functions in Food Preparation

1. Tenderizing
2. Aeration
3. Emulsions
4. Flavor
5. Oxidation

#### D. Nutritional Value

1. Functions in the Body
2. Dietary Needs
3. Current Issues

### **XI. Protein**

#### A. Structure

1. Bonds

#### B. Denaturation

1. Methods
2. Factors Affection

#### C. Functions in Food Preparation

1. Emulsifiers
2. Foams
3. Gelatins
4. Gluten

#### D. Dehydration

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1. Uses in Protein Based Foods
2. Preparation
3. Methods
4. Storage of Dried Foods

### E. Nutritional Value

1. Functions in the Body
  - a. Essential Amino Acids
  - b. Protein Allowances
2. Current Issues

## **XII. Enzymes**

### A. How They Work

1. Specialized Catalysts
2. Coenzymes
3. Factors Affecting Activity

### B. Activity in Food

1. Enzymatic Browning
2. Yeast Breads
3. Tenderizing Meats

### C. Nutritional Value

1. Impact on Nutrition
2. Current Issues

## **XIII. Solutions and Colloidal Dispersions**

### A. Solutions

1. Concentrations
2. Solutes and Phase Changes
3. Effect on Nutrition
4. Use in Food Preparation

### B. Colloidal Dispersions

1. Phases
2. Properties
3. Emulsions
4. Food Foams



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- 5. Use in Food Preparation
- C. Suspensions
  - 1. Stability
  - 2. Use in Food Preparation
- D. Nutritional Value
  - 1. Impact on Nutrition
  - 2. Current Issues

***\*Information may also be covered in:***  
CA- Culinary Arts

**Food Science, Dietetics and Nutrition**

<b>Career Cluster/Cluster Grouping:</b>	<b>Hospitality, Human Services &amp; Education</b>	
<b>Pathway(s):</b>	<b>Restaurants &amp; Food &amp; Beverage Services</b>	
<b>Prepared Completer Competencies:</b>		
<ul style="list-style-type: none"> <li>N9.0 Integrate knowledge, skills, practices required for careers in food science, food technology, dietetics, and nutrition.</li> </ul>		
<b>High School Expectations</b>		
<b>Concepts and skills students know include:</b>		
<ul style="list-style-type: none"> <li>N9.1 Analyze career paths within food science, food technology, dietetics, and nutrition industries.</li> </ul>		
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>	
<p>N9.1.1 Explain the roles and functions of individuals engaged in food science, food technology, dietetics, and nutrition careers. (PWR2.7.e) (RWC02.02.a, RWC02.02.c) (SST01.03.b)</p> <p>N9.1.2 Analyze opportunities for employment and entrepreneurial endeavors. (PWR2.7.f) (RWC02.02.a, RWC04.06.c, RWC04.06.d, RWC04.10.c) (SST03.01.d)</p> <p>N9.1.3 Summarize education and training requirements and opportunities for career paths in food science, food technology, dietetics, and nutrition. (PWR2.7.e) (RWC02.02.a, RWC04.06.d)</p>	<p><b>Academic Content Knowledge Alignment:</b> MAT03.04.a - Data Analysis, Statistics, and Probability - Randomness is the foundation for using statistics to draw conclusions when testing a claim or estimating plausible values for a population characteristic - Define and explain the meaning of significance (both practical and statistical)</p> <p>RWC02.02.a - Reading for All Purposes - Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills - Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across</p>	

N9.1.4 Analyze the impact of food science, dietetics, and nutrition occupations on local, state, national, and global economies. (MAT03.04.a) (PWR2.7.f) (RWC04.06.d, RWC04.08.b, RWC04.10.a) (SST02.03.a, SST02.03.b, SST03.01.d, SST03.02.b, SST03.02.c)

N9.1.6 Analyze the role of professional organizations in food science, food technology, dietetics, and nutrition careers. (PWR2.7.e) (RWC02.02.a, RWC02.02.c, RWC04.06.d)

informational texts

RWC02.02.c - Reading for All Purposes - Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills - Obtain and use information from text and text features (index, bold or italicized text, subheadings, graphics) to answer questions, perform specific tasks, or identify and solve problems

RWC04.06.c - Research and Reasoning - Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions - Identify and evaluate potential sources of information for accuracy, reliability, validity, and timeliness

RWC04.06.d - Research and Reasoning - Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions - Use a variety of strategies (such as search engines, online databases, interview) to collect and organize relevant and significant information

RWC04.08.b - Research and Reasoning - Informational materials, including electronic sources, need to be collected, evaluated, and analyzed for accuracy, relevance, and effectiveness for answering research questions - Integrate information from different sources to form conclusions about an

	<p>author's assumptions, biases, credibility, cultural and social perspectives, or world views</p> <p>RWC04.10.a - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Analyze the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts inherent in thinking</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p> <p>SST01.03.b-Social Studies, History, The significance of ideas as powerful forces throughout history - Investigate the historical development of and impact of major scientific and technological innovations. Topics to include but not limited to the Industrial Revolution</p> <p>SST02.03.a-Social Studies, Geography, The interconnected nature of the world, its people and places - Explain how the uneven distribution of resources in the world can lead to conflict, competition, or cooperation among nations, regions, and cultural groups</p> <p>SST02.03.b-Social Studies, Geography, The interconnected nature of the world, its people and places - Explain that the world's</p>
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	<p>population is increasingly connected to and dependent upon other people for both human and natural resources</p> <p>SST03.01.d-Social Studies, Economics, Productive resources (natural, human, capital) are scarce; therefore choices are made about how individuals, businesses, governments, and societies allocate these resources - Identify influential entrepreneurs and describe how they have utilized resources to produce goods and services</p> <p>SST03.02.b-Social Studies, Economics, Economic policies impact markets - Recognize the interaction between foreign and domestic economic policies including embargoes, tariffs, and subsidies</p> <p>SST03.02.c-Social Studies, Economics, Economic policies impact markets - Identify government activities that affect the local, state, or national economy</p> <hr/> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b>  PWR2.7.e-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal Responsibility - Understand the relevance of learning to postsecondary and workforce readiness</p> <p>PWR2.7.f-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal Responsibility - Demonstrate awareness of and</p>
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	evaluate career options
<b>Concepts and skills students know include:</b>	
<ul style="list-style-type: none"> <li>N9.2 Apply risk management procedures to food safety, food testing, and sanitation.</li> </ul>	
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>
<p>N9.2.1 Analyze factors that contribute to food borne illness. (PWR2.6.d) (RWC02.02.a, RWC04.10.c)</p> <p>N9.2.2 Analyze food service management safety and sanitation programs. (PWR2.6.d) (RWC02.02.a, RWC02.02.c)</p> <p>N9.2.4 Use the Hazard Analysis Critical Control Point (HACCP) during all food handling processes to minimize the risks of food borne illness. (PWR2.5.b) (RWC04.10.c)</p> <p>N9.2.5 Demonstrate practices and procedures that assure personal and workplace health and hygiene. (PWR2.7.d, PWR2.7.g) (RWC04.10.c)</p> <p>N9.2.6 Demonstrate standard procedures for receiving and storage of raw and prepared foods. (MAT01.02.a) (RWC04.10.c)</p> <p>N9.2.7 Classify current types of cleaning materials</p>	<p><b>Academic Content Knowledge Alignment:</b> MAT01.02.a - Number Sense, Properties, and Operations - Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently. - Use appropriate computation methods that encompass estimation and calculation.</p> <p>RWC02.02.a - Reading for All Purposes - Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills - Use reading and note-taking strategies (outlining, mapping systems, skimming, scanning, key word search) to organize information and make connections within and across informational texts</p> <p>RWC02.02.c - Reading for All Purposes - Interpreting and evaluating complex informational texts require the understanding of rhetoric, critical reading, and analysis skills - Obtain and use information from text and text features (index, bold or italicized text, subheadings, graphics) to answer questions, perform specific tasks, or identify and</p>

<p>and sanitizers and their proper use. (PWR2.6.d) (SCI01.03.b)</p> <p>N9.2.8 Use Occupational Safety and Health Administration's (OSHA) Right to Know Law and Material Safety Data Sheets (MSDS) and explain their requirements in handling hazardous materials. (PWR2.5.b) (RWC04.10.c)</p>	<p>solve problems</p> <p>RWC04.01.c - Research and Reasoning - Independent research designs articulate and defend information, conclusions and solutions that address specific contexts and purposes - Critique and defend sources and information based on credibility, relevance and appropriateness relative to context and purpose</p> <p>SCI01.03.b - Physical Science - Matter can change form through chemical or nuclear reactions abiding by the laws of conservation of mass and energy - Predict reactants and products for different types of chemical and nuclear reactions</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b>  PWR2.5.b-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Civic Responsibility - Be involved in the community and participate in its political life</p> <p>PWR2.6.d-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Work Ethic - Learn from instruction and criticism</p> <p>PWR2.7.d-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal Responsibility - Take responsibility for actions</p> <p>PWR2.7.g-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal</p>
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	Responsibility - Attend to personal health and wellness
<b>Concepts and skills students know include:</b>	
<ul style="list-style-type: none"> <li>N9.3 Evaluate nutrition principles, food plans, preparation techniques and specialized dietary plans.</li> </ul>	
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>
<p>N9.3.1 Analyze nutrient requirements across the life span addressing the diversity of people, culture, and religions. (HPE02.04.e, HPE02.05.b, HPE02.05.d, HPE02.05.e)(PWR2.2.a) (RWC04.08.b,RWC04.10.c) (SCI02.03.e)</p> <p>N9.3.2 Analyze nutritional data. (HPE02.06.a,HPE02.06.b)(MAT03.03.a)(PWR2.2.a) (RWC04.10.c)</p> <p>N9.3.3 Apply principles of food production to maximize nutrient retention in prepared foods. (RWC04.10.c) (SCI02.03.e)</p> <p>N9.3.4 Assess the influence of socioeconomic and psychological factors on food and nutrition and behavior.(HPE02.04.d, HPE02.04e, HPE02.05.a,HPE02.05.b, HPE02.05.c, HPE02.05d, HPE02.05.e) (RWC04.08.b)</p> <p>N9.3.6 Critique the selection of foods to promote a healthy lifestyle. (HPE02.06.a, HPE02.06.b,</p>	<p><b>Academic Content Knowledge Alignment:</b> HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of</p>

<p>HPE02.06.c, HPE02.06.d) (RWC04.04.a, RWC04.10.c) (SC102.03.e)</p> <p>N9.3.7 Categorize foods into exchange groups and plan menus, applying the exchange system to meet various nutrient needs. (HPE02.04.a, HPE02.04.b, HPE02.04.c) (MAT01.02.a) (RWC04.06.d) (SCI02.03.e)</p>	<p>eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on healthy growth and development</p> <p>HPE02.04.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior and metabolism</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p>
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	<p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on body image and the subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>HPE02.06.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Describe and explain how current federal nutrition standards and guidelines are useful in planning a healthy diet</p> <p>HPE02.06.b-Comprehensive Health and</p>
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	<p>Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Use information on food labels to make healthy eating choices</p> <p>HPE02.06.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Demonstrate how to balance caloric intake with caloric expenditure to maintain, gain, or reduce weight in a healthy manner</p> <p>HPE02.06.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Set a goal to improve one's personal food choices that lead to a healthier diet</p> <p>MAT01.02.a - Number Sense, Properties, and Operations - Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently. - Use appropriate computation methods that encompass estimation and calculation.</p> <p>MAT03.03.a - Data Analysis, Statistics, and Probability - Visual displays and summary statistics condense the information in data sets into usable knowledge - Identify and choose appropriate ways to summarize numerical or categorical data using</p>
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	<p>tables, graphical displays, and numerical summary statistics (describing shape, center and spread) and accounting for outliers when appropriate</p> <p>RWC04.04.a - Research and Reasoning - Complex situations require critical thinking across multiple disciplines - Analyze the logic of complex situations by questioning the purpose, question at issue, information, points of view, implications and consequences inferences, assumptions and concepts</p> <p>RWC04.06.d - Research and Reasoning - Collect, analyze, and evaluate information obtained from multiple sources to answer a question, propose solutions, or share findings and conclusions - Use a variety of strategies (such as search engines, online databases, interview) to collect and organize relevant and significant information</p> <p>RWC04.08.b - Research and Reasoning - Informational materials, including electronic sources, need to be collected, evaluated, and analyzed for accuracy, relevance, and effectiveness for answering research questions - Integrate information from different sources to form conclusions about an author's assumptions, biases, credibility, cultural and social perspectives, or world views</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated</p>
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	<p>process to solve a problem</p> <p>SCI02.03.e - Life Science - Cellular metabolic activities are carried out by biomolecules produced by organisms - Analyze and interpret data on the body's utilization of carbohydrates, lipids, and proteins</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b> PWR2.2.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology - Select, integrate, and apply appropriate technology to access and evaluate new information</p>
<p><b>Concepts and skills students know include:</b></p> <ul style="list-style-type: none"> <li>N9.4 Apply basic concepts of nutrition and nutritional therapy in a variety of settings.</li> </ul>	
<p><b>Evidence Outcomes - Students can:</b></p>	<p><b>21<sup>st</sup> Century Skills and Readiness Competencies</b></p>
<p>N9.4.1 Analyze nutritional needs of individuals. (HPE02.04.a,HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e)(MAT01.02.a) (PWR2.2.a) (SCI02.03.e)</p> <p>N9.4.4 Construct a modified diet based on nutritional needs and health conditions. (HPE02.04.a,HPE02.04.b, HPE02.04.c,HPE02.04.d, HPE02.04.e) (MAT01.02.a) (PWR2.2a) (RWC03.09.d) (SCI02.03.e)</p> <p>N9.4.5 Design instruction on nutrition for health maintenance and disease prevention.(HPE02.04.a,</p>	<p><b>Academic Content Knowledge Alignment:</b> HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical</p>

HPE02.04.b HPE02.04.c, HPE02.04.d,  
HPE02.04.e, HPE02.05.a, HPE03.05.b,  
HPE02.05.c, HPE02.06.a, HPE02.06.b,  
HPE02.06.c, HPE02.06.d, HPE04.03.c)(PWR2.2a,  
PWR2.8.a) (RWC01.03.b) (SCI02.03e)

activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis

HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs

HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on healthy growth and development

HPE02.04.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior and metabolism

HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for

	<p>nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.06.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Describe and explain how current federal nutrition standards and guidelines are useful in planning a healthy diet</p> <p>HPE02.06.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Use information on food labels to make healthy eating choices</p> <p>HPE02.06.c-Comprehensive Health and Physical</p>
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# Family and Consumer Sciences Education

## 2009-2010 Standards

	<p>Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Demonstrate how to balance caloric intake with caloric expenditure to maintain, gain, or reduce weight in a healthy manner</p> <p>HPE02.06.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Set a goal to improve one's personal food choices that lead to a healthier diet</p> <p>HPE04.03.c-Comprehensive Health and Physical Education, Prevention and Risk Management(Health), The impact of individuals' use or nonuse of alcohol or other drugs - Analyze the consequences of using weight-loss pills and products as well as and performance-enhancing drugs</p> <p>MAT01.02.a - Number Sense, Properties, and Operations - Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently. - Use appropriate computation methods that encompass estimation and calculation.</p> <p>RWC01.03.b - Oral Expression and Listening - Verbal and nonverbal cues impact the intent of communication - Deliver formal oral presentations for intended purpose and audience, using effective</p>
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	<p>verbal and nonverbal communication</p> <p>RWC03.09.d - Writing and Composition - Grammar, language usage, mechanics, and clarity are the basics of ongoing refinements and revisions within the writing process - Distinguish between the active and passive voice, and write in the active voice</p> <p>SCI02.03.e - Life Science - Cellular metabolic activities are carried out by biomolecules produced by organisms - Analyze and interpret data on the body's utilization of carbohydrates, lipids, and proteins</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b>  PWR2.2.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology -  Select, integrate, and apply appropriate technology to access and evaluate new information</p> <p>PWR2.8.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Communication -  Read, write, listen and speak effectively</p>
<p><b>Concepts and skills students know include:</b></p> <ul style="list-style-type: none"> <li>• N9.5 Demonstrate use of current technology in food product development and marketing.</li> </ul>	

Evidence Outcomes - Students can:	21 <sup>st</sup> Century Skills and Readiness Competencies
<p>N9.5.1 Analyze various factors that affect food preferences in the marketing of food. (HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e) (PWR2.1.e) ( RWC04.10.c) (SCI#3 Applying Life Science 3)</p> <p>N9.5.2 Analyze data in statistical analysis in making development and marketing decisions. (MAT03.03.c, MAT03.04.a) (PWR2.1.c, PWR2.2.a) (RWC04.02.a, RWC04.10.c)</p> <p>N9.5.4 Maintain test kitchen/ laboratory and related equipment and supplies. (PWR2.6.c, PWR2.7.e) (RWC04.10.c)</p> <p>N9.5.5 Implement procedures that affect quality product performance. (PWR2.6.a, PWR2.6.b, PWR2.6.c, PWR2.7.e) (RWC04.10.c)</p> <p>N9.5.6 Conduct sensory evaluations of food products.(PWR2.1.a) (RWC04.10.c)</p> <p>N9.5.7 Conduct testing for safety of food products, utilizing available technology. (RWC04.10.c)</p>	<p><b>Academic Content Knowledge Alignment:</b> HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on body image and the</p>

	<p>subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>MAT03.03.c - Data Analysis, Statistics, and Probability - Visual displays and summary statistics condense the information in data sets into usable knowledge - Describe the relationship between two categorical variables using percents</p> <p>MAT03.04.a - Data Analysis, Statistics, and Probability - Randomness is the foundation for using statistics to draw conclusions when testing a claim or estimating plausible values for a population characteristic - Define and explain the meaning of significance (both practical and statistical)</p> <p>RWC04.02.a - Research and Reasoning - Logical arguments distinguish facts from opinions, and evidence defines reasoned judgment - Synthesize information to support a logical argument</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p>
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	<p>SCI#3 -Applying Life Science 3</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b>  PWR2.1.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving - Apply logical reasoning and analytical skills</p> <p>PWR2.1.c-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving - Understand different research approaches</p> <p>PWR2.1.e-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving - Evaluate the credibility and relevance of information, ideas, and arguments</p> <p>PWR2.2.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology - Select, integrate, and apply appropriate technology to access and evaluate new information</p> <p>PWR2.6.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Work Ethic - Plan and prioritize goals</p> <p>PWR2.6.b-Postsecondary &amp; Workforce Readiness,</p>
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	<p>Learning and Behavior Skills, Work Ethic - Manage time effectively</p> <p>PWR2.6.c-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Work Ethic - Take initiative, and follow through</p> <p>PWR2.7.e-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal Responsibility - Understand the relevance of learning to postsecondary and workforce readiness</p>
<p><b>Concepts and skills students know include:</b></p> <ul style="list-style-type: none"> <li>• N9.6 Demonstrate food science, dietetics, and nutrition management principles and practices.</li> </ul>	
<p><b>Evidence Outcomes - Students can:</b></p>	<p><b>21<sup>st</sup> Century Skills and Readiness Competencies</b></p>
<p>N9.6.2 Implement food preparation, production, and testing systems. (PWR2.9.a, PWR2.9.c) (RWC04.10.c)</p> <p>N9.6.4 Create standardized recipes. (MAT01.02.a) (PWR2.2.a) (RWC04.08.a) (SCI01.02.b)</p> <p>N9.6.5 Manage amounts of food to meet needs of customers, clients.(MAT01.02.a) (PWR2.6.a) (RWC04.10.a, RWC04.01.b, RWC04.01.c)</p> <p>N9.6.6 Analyze new products. (HPE02.06.b)(PWR2.1.e, PWR2.7.e) (RWC04.04.a)</p> <p>N9.6.7 Implement procedures that provide cost effective products.</p>	<p><b>Academic Content Knowledge Alignment:</b></p> <p>MAT01.02.a - Number Sense, Properties, and Operations - Formulate, represent, and use algorithms with real numbers flexibly, accurately, and efficiently. - Use appropriate computation methods that encompass estimation and calculation.</p> <p>RWC04.08.a - Research and Reasoning - Informational materials, including electronic sources, need to be collected, evaluated, and analyzed for accuracy, relevance, and effectiveness for answering research questions - Integrate information from different sources to research and complete a project</p> <p>RWC04.10.a - Research and Reasoning - Effective problem-solving strategies require high-quality</p>

N9.6.8 Establish par levels for the purchase of supplies based on an organization's needs. (MAT01.02.a) (PWR2.1.a) (RWC04.10.c)

N9.6.9 Utilize Food Code Points of time, temperature, date markings, cross contamination, hand washing, and personal hygiene as criteria for safe food preparation. (PWR2.7.e) (RWC04.10.c)

reasoning - Analyze the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts inherent in thinking

RWC04.10.b - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Assess strengths and weaknesses of their thinking and thinking of others by using criteria including relevance, clarity, accuracy, fairness, significance, depth, breadth, logic and precision

RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem

SCI01.02.b - Physical Science - Matter has definite structure that determines characteristic physical and chemical properties - Gather, analyze and interpret data on chemical and physical properties of elements such as density, melting point, boiling point, and conductivity

**Learning & Behavioral Skills (Inquiry, Application in Society & Technology & Nature of...):**

PWR2.1.a-Postsecondary & Workforce Readiness, Learning and Behavior Skills, Critical Thinking and Problem Solving - Apply logical reasoning and analytical skills

PWR2.1.e-Postsecondary & Workforce Readiness,

	<p>Learning and Behavior Skills, Critical Thinking and Problem Solving - Evaluate the credibility and relevance of information, ideas, and arguments</p> <p>PWR2.2.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Find and Use Information/Information Technology - Select, integrate, and apply appropriate technology to access and evaluate new information</p> <p>PWR2.6.a-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Work Ethic - Plan and prioritize goals</p> <p>PWR2.7.e-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Personal Responsibility - Understand the relevance of learning to postsecondary and workforce readiness</p> <p>PWR2.9.c-Postsecondary &amp; Workforce Readiness, Learning and Behavior Skills, Collaboration - Cooperate for a common purpose</p>
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<b>Career Cluster/Cluster Grouping:</b>	Hospitality, Human Services & Education
<b>Pathway(s):</b>	Restaurants & Food & Beverage Services
<b>Prepared Completer Competencies:</b>	
<ul style="list-style-type: none"> <li>Family &amp; Consumer Sciences National Reasoning for Action Standards</li> </ul>	
<b>High School Expectations</b>	

<b>Concepts and skills students know include:</b>	
<ul style="list-style-type: none"> <li>NRFA 1.0 Evaluate reasoning for self and others.</li> </ul>	
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>
<p>NRFA 1.1 Analyze different types of reasoning (e.g., scientific, practical, interpersonal). (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e) (RWC04.04.a, RWC04.04.b)</p> <p>NRFA 1.3 Establish criteria for adequate reasoning (RWC04.10.c)</p>	<p><b>Academic Content Knowledge Alignment:</b>            HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on</p>

	<p>healthy growth and development</p> <p>HPE02.04.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior and metabolism</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health),</p>
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	<p>Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on body image and the subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>RWC04.04.a - Research and Reasoning - Complex situations require critical thinking across multiple disciplines - Analyze the logic of complex situations by questioning the purpose, question at issue, information, points of view, implications and consequences inferences, assumptions and concepts</p> <p>RWC04.04.b - Research and Reasoning - Complex situations require critical thinking across multiple disciplines - Evaluate strengths and weaknesses of their logic and logic of others by using criteria including relevance, clarity, accuracy, fairness, significance, depth, breadth, logic and precision</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p>
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	<p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b></p>
<p><b>High School Expectations</b></p>	
<p><b>Concepts and skills students know include:</b></p> <ul style="list-style-type: none"> <li>NRFA 2.0 Analyze recurring and evolving family, workplace, and community standards.</li> </ul>	
<p><b>Evidence Outcomes - Students can:</b></p>	<p><b>21<sup>st</sup> Century Skills and Readiness Competencies</b></p>
<p>NRFA 2.1 Classify different types of concerns (e.g., theoretic, technical, practical) and possible methods for addressing them. (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e) (RWC04.10.c)</p>	<p><b>Academic Content Knowledge Alignment:</b></p> <p>HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical</p>

	<p>Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on healthy growth and development</p> <p>HPE02.04.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior and metabolism</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence</p>
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	<p>food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on body image and the subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>HPE02.06.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Describe and explain how current federal nutrition standards and guidelines are useful in planning a healthy diet</p> <p>HPE02.06.b-Comprehensive Health and Physical</p>
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	<p>Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Use information on food labels to make healthy eating choices</p> <p>HPE02.06.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Demonstrate how to balance caloric intake with caloric expenditure to maintain, gain, or reduce weight in a healthy manner</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b></p>
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<b>High School Expectations</b>	
<b>Concepts and skills students know include:</b>	
<ul style="list-style-type: none"> <li>NRFA 3.0 Analyze practical reasoning components.</li> </ul>	
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>

NRFA3.4 Distinguish adequate and/or reliable information from inadequate and/or unreliable information. (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e)

NRFA 3.5 Analyze role exchange, universal consequences, the role of ethics, and other tests for making responsible judgments (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e) (RWC04.10.c)

NRFA3.6 Distinguish adequate from inadequate reasons. (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05c, HPE02.05.d, HPE02.05.e, HPE02.06.a, HPE02.06.b, HPR02.06.c)

**Academic Content Knowledge Alignment:**

HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet

HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis

HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs

HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on healthy growth and development

HPE02.04.e-Comprehensive Health and Physical

	<p>Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior and metabolism</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on</p>
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	<p>body image and the subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b></p>
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<b>High School Expectations</b>	
<b>Concepts and skills students know include:</b> <ul style="list-style-type: none"> <li>NRFA 4.0 Implement practical reasoning for responsible action in families, workplaces and communities.</li> </ul>	
<b>Evidence Outcomes - Students can:</b>	<b>21<sup>st</sup> Century Skills and Readiness Competencies</b>
NRFA 4.2 Describe a particular recurring and evolving individual, family, workplace, or community concern. (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04e, HPE02.05.a, HPE02.05.b, HPE02.05.c,	<b>Academic Content Knowledge Alignment:</b> HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the

<p>HPE02.05.d, HPE02.05.e, HPE02.06.a, HPE02.06.b, HPE02.06.c)(RWC04.10.a)</p> <p>NRFA 4.7 Use adequate and reliable information to critique possible actions. (HPE02.04.a, HPE02.04.b, HPE02.04c, HPE02.04.d, HPE02.05.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05e, HPE02.06.a, HPE02.06.b, HPE02.06.c)</p> <p>NRFA 4.8 Evaluate potential short and long term consequences of possible actions on self, others, culture/society, and global environment. (HPE02.04.a, HPE02.04.b, HPE02.04.c, HPE02.04.d, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE02.05.c, HPE02.05.d, HPE02.05.e, HPE02.06.c) (RWC04.10.c)</p> <p>NRFA 4.11 Design a plan for accomplishing a selected action. (HPE02.06.a, HPE02.06.b, HPE02.06.c, HPE02.06.d)(RWC04.10.c)</p> <p>NRFA 4.12 Implement and monitor a plan of action based on established standards and valued ends. (HPE02.06.a, HPE02.06.d)(RWC04.10.c)</p>	<p>consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.04.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Explain the effects of disordered eating and eating disorders on healthy growth and development</p> <p>HPE02.04.e-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze the relationship between eating behavior</p>
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	<p>and metabolism</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p>HPE02.05.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of family, peers, culture, and media on body image and the subsequent effects on eating behavior</p> <p>HPE02.05.e-Comprehensive Health and Physical</p>
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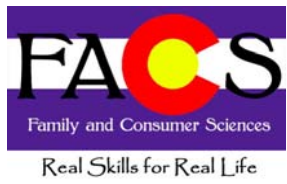
	<p>Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how a positive or a negative body image can influence eating behavior</p> <p>HPE02.06.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Describe and explain how current federal nutrition standards and guidelines are useful in planning a healthy diet</p> <p>HPE02.06.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Use information on food labels to make healthy eating choices</p> <p>HPE02.06.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Demonstrate how to balance caloric intake with caloric expenditure to maintain, gain, or reduce weight in a healthy manner</p> <p>HPE02.06.d-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Demonstrate ways to take responsibility for healthy eating - Set a goal to improve one's personal food choices that lead to a healthier diet</p>
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	<p>RWC04.10.a - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Analyze the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts inherent in thinking</p> <p>RWC04.10.c - Research and Reasoning - Effective problem-solving strategies require high-quality reasoning - Implement a purposeful and articulated process to solve a problem</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b></p>
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<p><b>High School Expectations</b></p>	
<p><b>Concepts and skills students know include:</b></p> <ul style="list-style-type: none"> <li>NRFA 5.0 Demonstrate scientific inquiry and reasoning to gain factual knowledge and test theories on which to base judgments for action.</li> </ul>	
<p><b>Evidence Outcomes - Students can:</b></p>	<p><b>21<sup>st</sup> Century Skills and Readiness Competencies</b></p>
<p>NRFA5.5 Draw conclusions based on data and information that are judged to be reliable. (HPE02.04.a, HPE02.04.b, HPE02.04.e, HPE02.05.a, HPE02.05.b, HPE.02.05.c, HPE02.05.d, HPE02.05.e)</p>	<p><b>Academic Content Knowledge Alignment:</b> HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy</p>

	<p>diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.04.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Use nutritional evidence to describe a healthy diet and an unhealthy diet</p> <p>HPE02.04.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the consequences of an unhealthy diet - Analyze and describe the relationship among healthy eating, physical activity, and chronic diseases such as heart disease, cancer, type-2 diabetes, hypertension, and osteoporosis</p> <p>HPE02.04.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze the benefits of a healthy diet and the</p>
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	<p>consequences of an unhealthy diet - Describe the importance of eating a variety of foods to balance nutrient and caloric needs</p> <p>HPE02.05.a-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze advertising claims for nutrition supplements and weight-loss products</p> <p>HPE02.05.b-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze how family, peers, and the media influence food choices</p> <p>HPE02.05.c-Comprehensive Health and Physical Education, Physical and Personal Wellness(Health), Analyze how family, peers, media, culture, and technology influence healthy eating choices - Analyze the influence of media on the selection of products and services related to weight management</p> <p><b>Learning &amp; Behavioral Skills (Inquiry, Application in Society &amp; Technology &amp; Nature of...):</b></p>
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# Family and Consumer Sciences Education 2009-2010 Standards



As of May 1, 2010