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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Hospitality and Tourism |
| **Course Name** | Food Science |
| **Lesson/Unit Title** | Nutrition Science for Life! |
| **TEKS Student Expectations** | **130.256. (c) Knowledge and Skills**  (5) The student analyzes the role of acids and bases in the food sciences. The student is expected to:  (B) analyze the relationship of pH to the properties, safety, and freshness of food  (6) The student evaluates the principles of microbiology and food safety practices. The student is expected to:  (B) compare food intoxication and food infection  (E) analyze sanitary food-handling practices |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | |
| **Instructional Objectives** | **Students will:**   * Identify the food groups in MyPlate to build a healthy plate * Classify their daily recommendations for the five food groups * Determine the importance of fiber in their diet * Analyze the Dietary Guidelines for Americans * Track their eating habits * Survey their peers and their eating habits |
| **Rationale** | Are you eating the right foods? Are you eating enough of the right foods to get the daily recommended amounts for good health? Today, we are going to find out how much of the right foods we need to avoid health related illnesses and diseases as well as the importance of fiber in our diet. |
| **Duration of Lesson** | Three 45-minute class periods |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | **Dietary Guidelines for Americans:** Science-based guidelines about nutrition and physical activity for healthy Americans over the age of two  **Fiber:** Complex carbohydrates that help the digestion process  **MyPlate:** Illustrates the five food groups that are the building blocks for a healthy diet using a familiar image—a place setting for a meal.  Note: Many other terms on the slide presentation can be identified. Encourage students to include the definition in the assignment. |
| **Materials/Specialized Equipment Needed** | **Equipment:**   * Computer with projector for PowerPoint presentation * Light projector (Elmo) * Presenter/remote   **Materials:**   * ChooseMyPlate Poster * Food replicas (various, if available) or magazine pictures   + Dairy products   + Fruits   + Grain foods   + Protein foods   + Vegetables * Copies of handouts   **PowerPoint:**   * Nutrition Science for Life! * Presentation Notes – Nutrition Science for Life!   **Technology:**   * Free iPad App   + Lose It! – Weight Loss Program and Calorie Counter Helps you set a daily calorie budget, track your food, and exercise and stay motivated to make smarter choices and achieve your goal.<https://itunes.apple.com/us/app/lose-it!-weight-loss-program/id297368629?mt=8> * SurveyMonkey® World’s leading provider of web-based survey solutions<https://www.surveymonkey.com/home/>   **Graphic Organizers:**   * Dietary Guidelines for Americans Notes (Key) * Dietary Guidelines for Americans Notes * How Much Do I Need?   **Handouts:**   * ChooseMyPlate Poster * Dietary Guidelines for Americans 2010 * How Many Grain Foods are Needed Daily? * How Many Vegetables are Needed Daily or Weekly? * How Much Food from the Dairy Group is Needed Daily? * How Much Food from the Protein Foods Group is Needed Daily? * How Much Fruit is Needed Daily? * How Much is My Allowance for Oils? * MyPlate Notes * Rubric for Group Project – Nutrition Survey * Use SuperTracker Your Way |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | **Before class begins:**  Display as many of the items from the Materials or Specialized Equipment Needed tab as you have available.  Ask students the following questions:   * How much fruit is needed daily? * How many vegetables are needed daily or weekly? * How many grain foods are needed daily? * How much food from the protein foods group is needed daily? * How much food from the dairy group is needed daily? * How much is your allowance for oils?   Lead a discussion on the importance of eating the right foods daily – eating for life! |
| **Direct Instruction \*** | Introduce lesson objectives, terms, and definitions.  Distribute MyPlate Notes. Students should divide plate in sections and identify the parts of the plate.  Introduce PowerPoint Nutrition Science for Life! and discuss the five food groups from ChooseMyPlate.gov.  View YouTube video:   * How to Follow the USDA MyPlate Dietary Guidelines The U.S. Department of Agriculture’s nutrition guidelines are now called MyPlate. Here’s how to adhere to the USDA recommendations.<http://www.youtube.com/watch?v=87xBZisdodY&feature=share&list=PLE46C880632416C6D>   *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * checking for understanding * providing assistance with note-taking |
| **Guided Practice \*** | Distribute handout How Much Do I Need? so that students can fill in their amounts of daily recommendations.  Display the following handouts on a light projector:   * How Much Fruit is Needed Daily? * How Many Vegetables are Needed Daily or Weekly? * How Many Grain Foods are Needed Daily? * How Much Food from the Protein Foods Group is Needed Daily? * How Much Food from the Dairy Group is Needed Daily? * How Much is My Allowance for Oils?   For the fiber daily recommendations, click on the link and print the page to show the light projector.   * Academy of Nutrition and Dietetics It’s About Eating Right – Fiber<http://www.eatright.org/Public/content.aspx?id=6796>   Be sure to discuss the importance of fiber in the diet.  The Dietary Guidelines for Americans, 2010 are the best science-based advice on how to eat for health and encourage all Americans to eat a healthy diet and be physically active.  Distribute the graphic organizer Dietary Guidelines for Americans Notes so that students may take notes from the brochure.  Distribute brochure Dietary Guidelines for Americans 2010 and allow students to read the material.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * providing peer tutoring * reducing length of assignment * assisting student in gathering information and preparing graphs |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Distribute handout Use SuperTracker Your Way.  Allow students to log onto:   * SuperTracker My Foods. My Fitness. My Health<https://www.supertracker.usda.gov/default.aspx>   Students may log the food they have eaten as well as their physical activity. This will allow them an opportunity to track their nutrient intake.  Option: Divide the class into subgroups of four. Explain to the class that they will be taking a survey of the eating habits of their peers using SurveyMonkey.com (free program).  Each group should brainstorm five questions pertaining to foods that they and their peers eat.  For example:   * Do you eat vegetables? * Do you eat fruit? * Do you know why it is important to eat fruits and vegetables?   Combine all of the groups and decide on the questions and number of questions that will be on the survey.  Once the questions are compiled, assign a scribe to input the data. The data should be compiled by age and gender of the person surveyed.  Each student should ask five more students to take the survey to find out how healthy their peers eat.  Distribute handout Rubric for Group Project – Nutrition Survey so that students know what will be expected.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * assisting student in gathering information * providing praise and encouragement |
| **Lesson Closure** | Review lesson terms, definitions, and objectives.  Ask students to predict the answers to the following questions:   * Who do you think are the healthiest eaters – males or females? * What age group eats the healthiest? * Are students eating fruits and vegetables? * Are students familiar with the MyPlate food groups? * What do you think will be the results of the survey? |
| **Summative/End of Lesson Assessment \*** | The results of the survey will be presented to the class. Compare the results to the predictions in the Lesson Closure section.  Students will be assessed with appropriate rubric.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * grading according to work done * providing praise and encouragement |
| **References/Resources/**  **Teacher Preparation** | **Textbooks:**   * Duyff, R. L. (2010). *Food, nutrition & wellness.* Columbus, OH: Glencoe/McGraw-Hill. * Ward, J.D., & Ward, L.T. (2013). *Principles of food science.* Tinley Park, IL: Goodheart-Willcox Company.   **YouTube:**   * How to Follow the USDA MyPlate Dietary Guidelines The U.S. Department of Agriculture’s nutrition guidelines are now called MyPlate. Here’s how to adhere to the USDA recommendations.<http://www.youtube.com/watch?v=87xBZisdodY&feature=share&list=PLE46C880632416C6D>   **Websites:**   * Academy of Nutrition and Dietetics It’s About Eating Right – Fiber<http://www.eatright.org/Public/content.aspx?id=6796> * Dietary Guidelines for Americans The cornerstone of Federal nutrition policy and nutrition education activities <http://www.cnpp.usda.gov/dietaryguidelines.htm> * U.S. Department of Agriculture.  ChooseMyPlate.gov Website. Washington, DC.<http://www.choosemyplate.gov/> Accessed November, 2013 * U.S. Department of Agriculture.  ChooseMyPlate.gov Website. Washington, DC. SuperTracker.<https://www.supertracker.usda.gov/default.aspx> Accessed November, 2013 |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** | * Word wall * Draw visual representations of terms on word wall * Add terms and definitions to personal dictionary * Utilize Four Corners Vocabulary/Word Wall Activity |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** | |
| **Reading Strategies** | Have students read articles related to the nutrition and the dietary guidelines from reliable sources. The following articles are from the Academy of Nutrition and Dietetics – the world’s largest of food and nutrition professionals.<http://www.eatright.org/>   * Iron Deficiency Iron is needed to make hemoglobin, a part of red blood cells that acts like a taxicab for oxygen and carbon dioxide.<http://www.eatright.org/Public/content.aspx?id=6442477730> * Get the Facts Making the right food and nutrition choices is a necessary part of daily life but finding the best and most accurate information can be confusing. [http://www.eatright.org/Public/content.aspx?id=6641](http://www.cnpp.usda.gov/dietaryguidelines.htm?id=6641) * Eating Right Isn’t Complicated Eating right doesn’t have to be complicated. Start with these recommendations from the Dietary Guidelines for Americans.<http://www.eatright.org/Public/content.aspx?id=6442473735> * Reading Strategy: Encourage students to “visualize” as they read. Many students are visual learners and will benefit from making sketches or diagrams on scrap paper as they read. Providing students with graphic organizers to help them organize their thoughts is also helpful. |
| **Quotes** | The new Dietary Guidelines provide concrete action steps to help people live healthier, more physically active, and longer lives. **-HHS Secretary Kathleen Sebelius**  The act of nutrition is not a purely physiological event…The family meal is a formality that cultivates in us…. a capacity for sharing, generosity, thoughtfulness, a talent for civilized conversation. **-Francine Du Plessix Gray**  I’s nutty for nutrition. I’ve become one of those people who can’t stop talking about the connection between food and health. Now that I know how much changing what you eat can transform your life, I can’t stop proselytizing. **-Robin Quivers** |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** | **Journal Entries:**   * I can increase the fiber in my diet by……………… * I can use the information I learned about Dietary Guidelines to improve…………… * I can use the information I learned about MyPlate to make improvements in my diet by ………….   **Writing Strategy:**   * Quickwrite (short writing exercises that can be used at the beginning, during, or at the end of a lesson using prompts)   + Topic: Dietary Guidelines for Americans   + To Begin Instruction: What can you tell me the Dietary Guidelines for Americans?   + During Instruction about mid-way through the lesson: What do you think about the new information in the 2010 Dietary Guidelines for Americans?   + After Instruction: What was the most important suggestion you learned today? What do you plan to incorporate into your lifestyle? |
| **Communication**  **90 Second Speech Topics** | * Name three benefits of choosing foods that limit saturated and trans fats, cholesterol, added sugars and salt in a diet. * List ways to increase levels of physical activity to ensure the 60 minutes recommendations. * Name some positive changes that can be made to consume a variety of foods from the different food groups each day. |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | Students may create a display of healthy foods to present to students during the lunch hour to promote making healthy choices. |
| **Family/Community Connection** | Encourage family members to log their food and physical activity in the SuperTracker website. They will learn the health benefits of eating the right foods with portion control and keeping active. |
| **CTSO connection(s)** | **Family Career and Community Leaders of America (FCCLA)**  [http://texasfccla.org](http://cte.sfasu.edu/wp-content/uploads/2013/11/How-Many-Vegetables-are-Needed-Daily-or-Weekly1.pdf)  **STAR Events:**   * Applied Technology: An individual or team event: Recognizes participants who develop a project using technology that addresses a concern related to Family and Consumer Sciences and/or related occupations. The project integrates and applies content from academic subjects. * Chapter Service Project (Display and Manual): A team event – recognizes chapters that develop and implement an in-depth service project that makes a worthwhile contribution to families, schools, and communities. Students must use Family and Consumer Sciences content and skills to address and take action on a community need. * Nutrition and Wellness: An individual event that recognizes participants who track food intake and physical activity for themselves, their family, or a community group and determine goals and strategies for improving their overall health. |
| **Service Learning Projects** | Successful service learning project ideas originate from student concerns and needs. Allow students to brainstorm about service projects pertaining to the lesson. For additional information on service learning see:  [http://www.servicelearning.org](http://www.servicelearning.org/)  Possible idea: Visit with the local elementary schools after-school program and plan a lesson with ChooseMyPlate for Kids. Various activities and games can be played as well as promote physical activity. |

1. Visit the Texas College and Career Readiness Standards at <http://www.thecb.state.tx.us/collegereadiness/CRS.pdf>, Texas Higher Education Coordinating Board (THECB), 2009. [↑](#footnote-ref-1)