**TEXAS CTE LESSON PLAN**

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| **Lesson Identification and TEKS Addressed** | |
| **Cluster** | Human Services |
| **Course** | Lifetime Nutrition and Wellness |
| **Lesson/Unit Title** | ChooseMyPlate – Vegetables and Fat-Soluble Vitamins |
| **TEKS Student Expectations** | **130.274. (C) Knowledge and Skills**  (2) The student understands the role of nutrients in the body.  (A) The student is expected to classify nutrients, their functions, and food sources and compare the nutritive value of various foods  (B) The student is expected to assess the effects of nutritional intake on health, appearance, effective job performance, and personal life  (6) The student demonstrates knowledge of food management principles.  (A) The student is expected to read and comprehend standard recipes  (C) The student is expected to demonstrate correct food preparation techniques, including nutrient retention  (G) The student is expected to demonstrate food preparation techniques to reduce overall fat and calories  (E) The student is expected to apply food storage principles |
| **Basic Direct Teach Lesson** | |
| **Instructional Objectives** | **Students will:**   * Focus on vegetables and their health benefits * Analyze fat-soluble vitamins for their functions and food sources * Determine the effects of fat-soluble vitamins * Plan and prepare a vegetable recipe |
| **Rationale** | Eating vegetables provides health benefits—people who eat more vegetables and fruits as part of an overall healthy diet are likely to have a reduced risk of some chronic diseases. Vegetables provide nutrients vital for health and maintenance of your body. |
| **Duration of Lesson** | Four 45-minute class periods |
| **Word Wall** | **Energy:** The ability or power to work or make an effort  **Fat-Soluble Vitamins:** A vitamin that is absorbed and transported by fat  **Functions:** To serve a purpose  **Nutrients:** A chemical substance, such as protein, carbohydrates, fat, or fiber, that your body needs to function, grow, repair itself, and create energy  **Sources:** The place, person, or thing through which something has come into being or from which it has been obtained  **Vegetables:** A plant or part of a plant used as food, typically an accompaniment to meat or fish, such as a cabbage, potato, carrot, or bean  **Vegetarian:** A person who does not eat meat, poultry, or fish |
| **Materials/Specialized Equipment Needed** | **Equipment:**   * Computer with Internet access for multimedia presentations * Computer lab with Internet access (be sure to follow school district guidelines)   **Materials:**   * Fruits and vegetables mini poster * Magazine pictures of vegetables * Myplate Vegetables * Storing fruits and veggies * Vegetable food replicas (if available)   **Supplies:**   * Replica of MyPlate (if available) * Copies for handouts   **PowerPoint:**   * Fat-Soluble Vitamins   **Technology:**   * Free iPad Apps   + I Heart Veggies HD – Vegetables Nutrition Tracking The built-in tracking helps identify nutritional gaps in your diet. [https://itunes.apple.com/us/app/i-heart-veggies-hd-vegetables/id491054914?mt=8](http://homefoodsafety.org/downloads/produce-infographic?mt=8) * Infographic:   + How Can We Keep Produce Fresh Longer? Eating right is easy when you fill half your plate with fruits and vegetables. If fresh produce goes bad before making it to your plate, you may be storing produce improperly, and wasting food and money along the way. Ensure you are storing your produce correctly and safely with this infographic from Home Food Safety.  [http://homefoodsafety.org/downloads/produce-infographic](http://cte.sfasu.edu/wp-content/uploads/2013/10/Fat-Soluble-Vitamins-PPT.pdf)   **Graphic Organizers:**   * ChooseMyPlate – Vegetables * ChooseMyPlate – Vegetables (Key) * Fat-Soluble Vitamins * Fat-Soluble Vitamins (Key)   **Handouts:**   * Add More Vegetables * Fruits and Veggies Mini Poster * Liven Up Your Meals * Rubric for Laboratory Experience – Vegetables * Myplate Vegetables * Storing Fruits and Veggies * Substitutions for Healthier Cooking and Baking   **Cookbooks:**   * Fast and Easy Recipes * Fruit and Vegetable Recipes * Healthy Recipes |
| **Anticipatory Set** | **Note to Teacher:**  The introductory lesson to the nutrients, ChooseMyPlate and SuperTracker is:   * Nutrition Principles for a Lifetime of Wellness   This is the second lesson of six that follows the ChooseMyPlate food groups. The others include:   * ChooseMyPlate – Fruits and Water-Soluble Vitamins * ChooseMyPlate – Grains and Carbohydrates * ChooseMyPlate – Protein Foods and Trace Minerals * ChooseMyPlate – Dairy, Major Minerals, and Electrolytes * ChooseMyPlate – Oils and Fats   These lessons may be taught individually in any sequence you prefer or may be taught as a whole.  The functions, food sources, deficiencies and excesses on the slide presentation were compiled using three different texts. You may use information from your text or a reliable source to complete these sections.  **Before class begins:**  Review recipes from the cookbooks provided by the SNAP-Ed Connection Recipe Finder Database. Recipes included in the database have been reviewed by nutrition professionals at the SNAP-Ed Connection using specific cost and nutrition criteria. Recipes are consistent with the current Dietary Guidelines for Americans and MyPlate. All recipes include the nutritional and cost analysis.  Cookbooks:   * Fast and Easy Recipes * Fruit and Vegetable Recipes * Healthy Recipes   These cookbooks and more are also available in the Resource section of the Lifetime Nutrition and Wellness home page.  Display vegetable food replicas (if available) or vegetable images from magazines at a table in front of the room. Make a few copies of the handouts listed in the Materials or Specialized Equipment Needed tab to display as well. Encourage students to discuss vegetables and how they add them to their daily diet.  Ask students to recall vegetables they have eaten in the last three days.  Allow them to add the foods to the Food Tracker section of the SuperTracker. They will be able to view how their daily choices stack up to their food group targets and daily limits.  Or, have students list the foods on a sheet of paper if computers are not available.  With your computer connected to a multimedia projector and log into the SuperTracker website<https://www.supertracker.usda.gov/>  Type in some of their choices to evaluate the amount, daily calorie limit, and daily food group targets. Discuss the results. |
| **Direct Instruction with Special Education Modifications/Accommodations** | Introduce lesson objectives, terms, and definitions.  Distribute handouts Add More Vegetable to Your Day and Liven Up Your Meals with Vegetable and Fruits – 10 Tips to Improve Your Meals with Vegetables and Fruits from the 10 Tips Nutrition Education Series. Allow students to review the tips to encourage eating more vegetables. These handouts may be included in their personal Lifetime Nutrition and Wellness Cookbook.  Connect your computer to a multimedia projector to view each page of the ChooseMyPlate website.  ChooseMyPlate – Vegetables [http://www.choosemyplate.gov/food-groups/vegetables.html](http://cte.sfasu.edu/wp-content/uploads/2013/10/Presentation-Notes-Fat-Soluble-Vitamins.pdf)  Distribute graphic organizer ChooseMyPlate – Vegetables so that students may take notes.  Review and discuss each page with your students so they become familiar with the nutrients, health benefits, and needed amounts. Be prepared to do an image search of vegetables students are not familiar with.  Vegetables – Vary Your Veggies   * What’s in the Vegetable Group? View Food Gallery * How Much is Needed? * What Counts as a Cup? * Health Benefits and Nutrients * Tips to Help You Eat Vegetables * Beans and Peas are Unique Foods   *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 * encourage participation |
| **Guided Practice with Special Education Modifications/Accommodations** | Introduce PowerPoint Fat-Soluble Vitamins. Allow students to take notes on their own paper (typed or handwritten) as you review the functions and sources of the vitamins as well as deficiencies and excesses or distribute the graphic organizer Fat-Soluble Vitamins.  Divide students into lab groups so that they may plan for the vegetable lab. They may choose their own recipe or review one provided by you. They will compile a grocery list of needed items.  Distribute handout Substitutions and Healthier Cooking and Baking. Students may use this handout to substitute healthier items for higher calorie ingredients.  Divide students into lab groups. Remind students of safety procedures, appropriate dress, and personal hygiene in food preparation.  Distribute the Rubric for Laboratory Experience – Vegetables so students will understand what is expected.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * peer to take notes * printed copy of slide presentation |
| **Independent Practice/Laboratory Experience with Special Education Modifications/Accommodations** | Students will prepare a vegetable recipe following all safety guidelines in the allotted amount of time.  Groups will set their tables according to the recipe chosen and practice etiquette and table service.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * extended time for assignments * check for understanding |
| **Lesson Closure** | Review lesson objectives, terms, and definitions.  Question and Answer Review  Ask the students to recall learned information from the following questions:   * Which vitamin promotes good vision? * Which vitamin works with calcium and phosphorus to ensure bone growth? * Which vitamin may reduce the risk of heart disease and some cancers? * Which vitamin helps blood to clot? * What happens if I get too much vitamin A? Vitamin K? * What can happen if I don’t get enough vitamin A? Vitamin E? Vitamin D?   Students may refer to their notes for review. |
| **Summative/End of Lesson Assessment with Special Education Modifications/Accommodations** | Students will be assessed with an appropriate rubric.  Students will evaluate the vegetable lab for flavor, ease of preparation, and presentation.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * encourage participation * assist in lab procedures |
| **References/Resources** | **Images:**   * Microsoft Office Clip Art: Used with permission from Microsoft.   **Textbook:**   * Duyff, R. L. (2010). *Food, nutrition & wellness.* Columbus, OH: Glencoe/McGraw-Hill. * Kowtaluk, H. (2010). *Food for today.* Columbus, OH: Glencoe/McGraw-Hill. * Weixel, S., & Wempen, F. (2010). *Food & nutrition and you*. Upper Saddle River, NJ: Pearson/Prentice Hall.   **Website:**   * U.S. Department of Agriculture ChooseMyPlate.gov Website. Washington, DC. Vegetables.<http://www.choosemyplate.gov/food-groups/vegetables.html> Accessed December, 2012. * U.S. Department of Agriculture ChooseMyPlate.gov Website. Washington, DC. SuperTracker. [https://www.supertracker.usda.gov/](http://cte.sfasu.edu/wp-content/uploads/2012/02/Four-Corner-Vocabulary2.pdf) Accessed December, 2012. |
| **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** | Current Events: Assign students to read more information about the benefits of fruits and vegetables. Information can be found in newspaper articles, magazines, journals, and online print.  Suggestions:   * Healthy Weight – It’s Not a Diet, It’s a Lifestyle! How to Use Fruits and Vegetables to Help Manage Your Weight [http://www.cdc.gov/healthyweight/healthy\_eating/fruits\_vegetables.html](http://cte.sfasu.edu/wp-content/uploads/2013/11/Rubric-for-Laboratory-Experience-Vegetables.pdf) * In the News: Fruits & Vegetables Read the latest in fruit & veggie news, everything from headliners and rumors … to research and policies that could affect you and your family.  [http://www.fruitsandveggiesmorematters.org/in-the-news-fruits-vegetables](http://cte.sfasu.edu/wp-content/uploads/2013/01/Storing-Fruits-and-Veggies.pdf) * Nutrition for Everyone Fruits and vegetables. http://www.cdc.gov/nutrition/everyone/fruitsvegetables   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** | We can make a commitment to promote vegetables and fruits and whole grains on every part of every menu. We can make portion sizes smaller and emphasize quality over quantity. And we can help create a culture – imagine this – where our kids ask for healthy options instead of resisting them. **-Michelle Obama**  Adopting a new healthier lifestyle can involve changing diet to include more fresh fruit and vegetables as well as increasing levels of exercise. **-Linford Christie**  So, if I’m cooking, I’ll be steaming vegetables, making some nice salad, that kind of stuff. **-Paul McCartney**  A lot of parents ask me how to get kids to eat more vegetables. The first thing I say is that it starts from the top. **-Emeril Lagasse** |
| **Writing Strategies** | **Journal Entries:**  My favorite vegetable is \_\_\_\_\_\_\_ because ………. My favorite vegetable recipe is \_\_\_\_\_\_\_ because ……… I don’t like vegetables because …… I will try to remember to eat more vegetables by …….  **Writing Strategies:**  RAFT Writing Strategy   * + Role – student   + Audience – chef   + Format – letter   + Topic – suggestions on how to include more vegetables in my meals |
| **Communication 90 Second Speech Topics** | Three benefits of eating vegetables daily are ……. School cafeteria should offer vegetables daily because …… Vegetables are important in our diets because …. |
| **Other Essential Lesson Components** | |
| **Enrichment activity** | If budget allows:   * Students may make vegetables using moist and dry heat techniques such as grilling, steaming, sautéing, and frying. * Practice garnishing techniques using vegetable for presentation.   **Infographic:**  Infographics are graphic visual representations of information, data or knowledge intended to present complex information quickly and clearly.  The infographic below is related to this lesson. Allow students to view the image on a projector and lead a discussion concerning the information provided.   * How Can We Keep Produce Fresh Longer? Eating right is easy when you fill half your plate with fruits and vegetables. If fresh produce goes bad before making it to your plate, you may be storing produce improperly, and wasting food and money along the way. Ensure you are storing your produce correctly and safely with this infographic from Home Food Safety.   Lifetime Nutrition and Wellness Math Assessment Problems:  Question 1. Margaret has been tracking what she eats. She has written down the total caloric intake for the past week.  Monday: 2,045, Tuesday: 3,209, Wednesday: 1,098, Thursday: 2,398, Friday: 3,487, Saturday: 2,378, Sunday: 2,938  What is Margaret’s approximate mean caloric intake? a. 2,225 b. 2,500 c. 2,750 d. 3,000  Answer: b  Question 4. You are shopping for a meal that calls for 2 pounds of meat at $2.39 per pound, one onion at 77 cents, and one pound of pasta that costs $1.48. Approximately how much would it cost if you needed to triple the amounts of all ingredients? a. $ 4.64 b. $ 7.03 c. $14.06 d. $21.09  Answer: d  Lifetime Nutrition and Wellness Social Studies Assessment Questions:  Ques. Food began to be processed and packaged during the: a. Great Depression b. Roaring Twenties c. Industrial revolution d. World War I  Answer: c  Lifetime Nutrition and Wellness Writing Prompt:  Think about safe and sanitary practices in the use, care, and storage of food. Imagine that you have friend who does not follow these practices. Write an essay explaining safe and sanitary practices in the use, care, and storage of food. (9th and 10th grade expository writing) |
| **Family/Community Connection** | Invite the local produce manager to speak to the class about organic vegetables and the difference in price, color, and flavor.  If possible, ask the produce manager to bring a variety of vegetables for students to sample. |
| **CTSO connection** | **Family, Career, and Community Leaders of America**  [http://www.texasfccla.org](http://homefoodsafety.org/downloads/produce-infographic)  **STAR Events:**   * Sports Nutrition  An individual or team event, recognizes participants who use Family and Consumer Sciences skills to plan and develop an individualized nutritional plan to meet the needs of a competitive student athletic in a specific sport. * Nutrition and Wellness An individual event, 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.   Online STAR Events:   * No Kid Hungry National Outreach Project  A team event, recognizes chapters that participate in the “No Kid Hungry” Share our Strength National Outreach Project. Participants will use Family and Consumer Sciences content and skills to address ending childhood hunger through service learning, education/awareness, and fundraising. |
| **Service Learning Projects** | Successful service learning project ideas originate from student concerns and needs. Allow students to brainstorm about service projects pertaining to lesson. For additional information on service learning see  [http://ysa.org/](http://cte.sfasu.edu/wp-content/uploads/2013/01/Fruit-and-Vegetable-Recipes.pdf)  Example:  Students may visit an elementary school to demonstrate healthy vegetable recipes and encourage students to fill half their plates with vegetables. |

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)