**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 – Oils and Fats |
| **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.  (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  (7) The student demonstrates effective work habits.  (A) The student is expected to participate as an effective team member demonstrating cooperation and responsibility |
| **Basic Direct Teach Lesson** | |
| **Instructional Objectives** | **Students will:**   * Focus on oils and their health benefits * Analyze fats for their functions and food sources * Determine the effects of fats * Plan and prepare a recipe substituting the fat with healthier options |
| **Rationale** | Oils are not a food group, but they do provide essential nutrients and are therefore included in USDA recommendations for what to eat. Note that only small amounts of oils are recommended. |
| **Duration of Lesson** | Four 45-minute class periods |
| **Word Wall** | **Cholesterol:** A fatlike substance in cells that is needed for many body processes  **Functions:** To serve a purpose  **HDL (high-density lipoprotein):** Picks up excess cholesterol and takes it back to the lever for excretion  **Hydrogenation:** Turns vegetable oils into solids  **LDL (low-density lipoprotein):** takes cholesterol from the liver to wherever it is needed in the body  **Nutrients:** A chemical substance, such as protein, carbohydrates, fat, or fiber, that your body needs to function, grow, repair itself, and create energy  **Saturated Fatty Acids:** A fatty acid that contains all the hydrogen it can chemically hold  **Sources:** The place, person, or thing through which something has come into being or from which it has been obtained  **Trans fats:** Increase LDL cholesterol levels and lower HDL cholesterol levels |
| **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:**   * Fatty food replicas (if available) * Magazine pictures of fats (fried chicken, french fries)   **Supplies:**   * Replica of MyPlate (if available) * Copies for handouts   **PowerPoint:**   * Fats   **Technology:**   * Free iPad Apps   + Calorie Counter and Diet Tracker by MyFitnessPal HD<https://itunes.apple.com/us/app/calorie-counter-diet-tracker/id488519281?mt=8>   + Calorie Counter: diets and activities<https://itunes.apple.com/us/app/calorie-counter-diets-activities/id433849825?mt=8>   + Livestrong.com – Calorie Tracker LITE – Your Free Diet and Fitness Calorie Counter for Better Health<https://itunes.apple.com/us/app/livestrong.com-calorie-tracker/id502317923?mt=8> * Infographic:   + How to Make Quick Meals Healthier Ways to make your favorite takeout and frozen foods healthier, while still being convenient for you.<http://dailyinfographic.com/how-to-make-quick-meals-healthier-infographic> * TED Talks:   + What is fat? – George Zaidan As the narrative goes, fat is bad. Well, it’s more nuanced than that. The type of fat you eat is more impactful on your health than the quantity. George Zaidan examines triglycerides, the varied molecules that make up fat, and how to identify which types of fat you are consuming.<http://ed.ted.com/lessons/what-is-fat-george-zaidan>   **Graphic Organizers:**   * ChooseMyPlate – Oils * ChooseMyPlate – Oils (Key) * Fats * Fats (Key)   **Handouts:**   * Build a Healthy Meal * Rubric for Laboratory Experience – Oils or Fats * Substitutions for Healthier Cooking and Baking   **Cookbooks:**   * Fast and Easy 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 sixth lesson of six that follows the ChooseMyPlate food groups. The others include:   * ChooseMyPlate – Fruits and Water-Soluble Vitamins * ChooseMyPlate – Vegetables and Fat-Soluble Vitamins * ChooseMyPlate – Grains and Carbohydrates * ChooseMyPlate – Protein Foods and Trace Minerals * ChooseMyPlate – Dairy, Major Minerals, and Electrolytes   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 * Healthy Recipes   These cookbooks and more are also available in the Resource section of the Lifetime Nutrition and Wellness home page.  Display fruit food replicas (if available) or fruit 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 fruits how they add fruit to their daily diet.  Ask students to recall the foods with oils and fats 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, 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 Build a Healthy Meal – 10 Tips for Healthy Meals from the 10 Tips Nutrition Education Series. Allow students to review the tips to encourage eating low fat foods. This handout 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 – Oils<http://www.choosemyplate.gov/food-groups/oils.html>  Distribute graphic organizer ChooseMyPlate – Oils 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 oils students are not familiar with.  Oils   * What are “Oils”? * How Are Oils Different from Solid Fats? * Why Is It Important to Consume Oils? * What’s My Allowance? * What Counts as a Teaspoon?   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 Fats. 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 use the graphic organizer Fats.  Divide students into lab groups so that they may plan for the Oils or Fats lab. They may choose their own recipe or review one provided by you. They will compile a grocery list of needed items. Encourage students to make healthier versions of recipes by substituting the fat with healthier ingredients.  Distribute handout Substitutions and Healthier Cooking and Baking. Students may use this handout to substitute higher calorie ingredients for healthier items.  Divide students into lab groups. Remind students of safety procedures, appropriate dress and personal hygiene in food preparation.  Distribute the Rubric for Laboratory Experience – Oils and Fats 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 an Oils or Fats 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:   * Why do we need fats in our diet? * What is LDL? Is it good or bad? * What is HDL? Is it good or bad? * What can too much saturated fat cause? * Are unsaturated fats liquid or solid? * Why do food producers like to use trans fats in their products?   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 also have the opportunity to evaluate the Oils or Fats 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** | **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. Oils.<http://www.choosemyplate.gov/food-groups/oils.html> Accessed December, 2012. * U.S. Department of Agriculture.  ChooseMyPlate.gov Website. Washington, DC. SuperTracker.<https://www.supertracker.usda.gov/> 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 * Utilized Four Corners Vocabulary/ Word Wall Activity |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** | |
| **Reading Strategies** | Encourage your students to read about low-fat cooking tips at About.com – Low Fat Cooking:   * Making Cheap, Low Fat Meals Healthy Budget Meals<http://lowfatcooking.about.com/od/mealplanning/a/cheapeats.htm> * 20 Ways to Cut Fat in Cooking Easy Ways to Cut Fat in Cooking<http://lowfatcooking.about.com/od/lowfatbasics/qt/20waystolowfat.htm> * Stocking Low Fat Foods Giving our kitchens a low-fat makeover<http://lowfatcooking.about.com/od/mealplanning/a/pantry102504.htm>   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** | Foods high in bad fats, sugar and chemicals are directly linked to many negative emotions, whereas whole, natural foods rich in nutrients – foods such as fruits, vegetables, grains, and legumes – contribute to greater energy and positive emotions. **-Marilu Henner**  I use a lot of spices, fresh veggies and fruit, extra virgin olive oil, nuts, avocado, soybeans, and organic ingredients as often as possible. We need fat in our diets and using the healthier fats is key. **-Todd English**  When you go to the grocery store, you find that the cheapest calories are the ones that are going to make you the fattest – the added sugars and fats in processed foods. **-Michael Pollan**  Stock up your pantry and your freezer with things that aren’t perishable: Your favorite jar of tomato sauce that lists ‘tomato’ as the first ingredient, lots of grains, olive oils, vinegars, tomato pastes, onions, shallots. When you go to the store, you only have to pick up meats and produce. **-Giada De Laurentiis** |
| **Writing Strategies** | **Journal Entries:**  I encourage my family to drink 1% milk now because ……….  My favorite low-fat treat is \_\_\_\_\_\_\_\_ because …….  **Writing Strategies:**  RAFT Writing Strategy   * + Role – student   + Audience – school dietitian   + Format – letter   + Topic – to improve low fat cafeteria food flavor |
| **Communication 90 Second Speech Topics** | Three benefits of eating low fat foods daily are …….  School cafeteria should offer flavorful low-fat versions of food daily because …… |
| **Other Essential Lesson Components** | |
| **Enrichment activity** | If budget allows:  Low Fat Cooking Contest   * Allow students to choose one regular recipe and substitute the oil or fat in the recipe with alternatives. Invite school personal to judge the best recipe for flavor, calories, and use of substitutions. Winner’s recipes may be showcased on school website, media, and newsletter.   **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 to Make Quick Meals Healthier Ways to make your favorite takeout and frozen foods healthier, while still being convenient for you.<http://dailyinfographic.com/how-to-make-quick-meals-healthier-infographic>   **TED Talks:**  TED-Ed’s commitment to creating lessons worth sharing is an extension of TED’s mission of spreading great ideas. This allows users to take any useful educational video, not just TED’s, and easily create a customized lesson around the video. The video below is related to this lesson. Allow students to view the video and lead a discussion concerning the TED Talk.   * What is fat? – George Zaidan As the narrative goes, fat is bad. Well, it’s more nuanced than that. The type of fat you eat is more impactful on your health than the quantity. George Zaidan examines triglycerides, the varied molecules that make up fat, and how to identify which types of fat you are consuming.<http://ed.ted.com/lessons/what-is-fat-george-zaidan> |
| **Family/Community Connection** | Invite the school food service dietitian to speak to the class about the new nutrition rules for school breakfasts and lunches. They will understand that schools must follow rigid rules for the food programs to receive federal funding. |
| **CTSO connection** | **Family, Career, and Community Leaders of America**  <http://www.texasfccla.org>   * **Star Event:** 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. |
| **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://www.servicelearning.org>  Example:  Students may work with the school food service dietitian to produce more flavorful meals to serve to students. |

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)