**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 – Grains and Carbohydrates |
| **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 assess the effects of nutritional intake on health, appearance, effective job performance, and personal life  (6) The student demonstrates knowledge of food management principles.  (B) The student is expected to correctly use standard measuring techniques and equipment  (C) The student is expected to demonstrate correct food preparation techniques, including nutrient retention  (E) The student is expected to demonstrate food preparation techniques to reduce overall fat and calories |
| **Basic Direct Teach Lesson** | |
| **Instructional Objectives** | **Students will:**   * Focus on whole grains and their health benefits * Analyze carbohydrates for their functions and food sources * Determine the effects of dietary fiber * Plan and prepare a grain group recipe |
| **Rationale** | Eating grains, especially whole grains, provides health benefits. People who eat whole grains as part of a healthy diet have a reduced risk of some chronic diseases. Grains provide many nutrients that are vital for the health and maintenance of our bodies. |
| **Duration of Lesson** | Four 45-minute class periods |
| **Word Wall** | **Carbohydrates:** The body’s main source of energy  **Complex carbohydrates:** A carbohydrate that requires more work for the body to digest  **Dietary fiber:** A plant material that cannot be digested  **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  **Simple carbohydrate:** A carbohydrate with a simple chemical structure  **Sources:** The place, person, or thing through which something has come into being or from which it has been obtained  **Starches:** A carbohydrate with a more complex chemical structure than a sugar  **Sugar:** The form of carbohydrate that supplies energy to the body |
| **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:**   * Grain food replicas (if available) * Magazine pictures of grains (pasta, oatmeal, rice)   **Supplies:**   * Replica of MyPlate (if available) * Copies for handouts   **PowerPoint:**   * Carbohydrates   **Technology:**   * Free iPad App:   + Italian Food Get the right balance with the five main food groups<https://itunes.apple.com/us/app/italian-food/id447087920?mt=8>   **YouTube:**   * The Benefits of Whole Grains Dietitian provides tips and tricks on how to eat better for weight loss and incorporate grains into your diet.<http://youtu.be/j6OWmgqrcbY>   **Graphic Organizers:**   * Carbohydrates * Carbohydrates (Key) * ChooseMyPlate – Grains * ChooseMyPlate – Grains (Key)   **Handouts:**   * Choosing Whole Grain Foods * Growing with Grains Program * Make Half Your Grains Whole * MyPlate Grains * Rubric for Laboratory Experience – Grains * Substitutions for Healthier Cooking and Baking * Whole Grain Lesson * Whole Grain Scramble   **Cookbooks:**   * Fast and Easy Recipes * Healthy Recipes * Whole Grain 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 third lesson of six that follows the ChooseMyPlate food groups. The others include:   * Choose MyPlate – Fruits and Water-Soluble Vitamins * Choose MyPlate – Vegetables and Fat-Soluble Vitamins * Choose MyPlate – Protein Foods and Trace Minerals * Choose MyPlate – Dairy, Major Minerals, and Electrolytes * Choose MyPlate – Oils and Fats   These lessons may be taught individually in any sequence you prefer or may be taught.  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 * Whole Grain Recipes   These cookbooks and more are also available in the Resource section of the Lifetime Nutrition and Wellness home page  Display grain food replicas (if available) or grain group images from magazines at a table in front of the room. Encourage students to discuss how they add grains to their daily diet.  Ask students to recall any grain foods 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 Choosing Whole Grain Foods – 10 Tips for Purchasing and Storing Whole Grain Foods and Make Half Your Grains Whole – 10 Tips to Help You Eat Whole Grains from the 10 Tips Nutrition Education Series. Allow students to review the tips. 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 – Grains<http://www.choosemyplate.gov/food-groups/grains.html>  Distribute graphic organizer ChooseMyPlate – Grains 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 grains students are not familiar with.  Grains – make at least half your grains whole   * What’s in the grains group? View food gallery * How much is needed? * What counts as an ounce? * Health benefits and nutrients * Tips to help you eat whole grains   YouTube Video:   * The Benefits of Whole Grains Dietitian provides tips and tricks on how to eat better for weight loss and incorporate grains into your diet.<http://youtu.be/j6OWmgqrcbY>   *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 Carbohydrates. 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 Carbohydrates. Students may include these notes in their cookbook also.  Divide students into lab groups so that they may plan for the grains 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 – Grains 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** | Groups will set their tables according to the recipe chosen and practice etiquette and table service.  Students will prepare a grain group recipe following all safety guidelines in the allotted amount of time.  *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:   * What is the body’s main source of energy? * Carbohydrates come mostly from where? * How many types of carbohydrates are there? * How many chemical units do monosaccharides have? * How many chemical units do disaccharides have? * What does dietary fiber do for us?   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 grains foods have 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®.   **Textbooks:**   * 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 for you.* Upper Saddle River, NJ: Pearson/Prentice Hall.   **Website:**   * Go with the Grain Grain Foods Foundation<http://gowiththegrain.org/> * U.S. Department of Agriculture ChooseMyPlate.gov Website. Washington, DC. Grains <http://www.choosemyplate.gov/food-groups/grains.html> Accessed December, 2012. * U.S. Department of Agriculture ChooseMyPlate.gov Website. Washington, DC. SuperTracker. <https://www.supertracker.usda.gov/> Accessed December, 2012.   **YouTube:**   * The Benefits of Whole Grains Dietitian provides tips and tricks on how to eat better for weight loss and incorporate grains into your diet.<http://youtu.be/j6OWmgqrcbY> |
| **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 about the health benefits of grains. Information can be found in newspaper articles, magazines, journals, and online print.  Suggestions:  The Science of Grains Keeping up with in-depth scientific research based on the health and nutritional value of grains: currently featuring information on celiac disease, glycemic index, and the importance of folic acid.   * Whole Grains and the Grill * Gluten-Free Diets: Evidence for Efficacy and Applications * The Value of Grains * Keep Your Heart Healthy with Whole Grains * Celiac Disease and the Gluten-Free Diet * Folic Acid for Healthy Beginnings * Acidfólico para comienzos saludables * The glycemic index – what you need to know * The truth about enriched grains * Go with the grain   Grain foods foundation<http://gowiththegrain.org/>  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**  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**  Chicken, brown rice, and veggies are a great healthy dinner option. It’s full of whole grains and protein, and will keep you full for a long time.  **-Mia Hamm**  Pasta doesn’t make you fat. How much pasta you eat makes you fat.  **-Giada De Laurentiis** |
| **Writing Strategies** | **Journal entries:**  My favorite pasta is \_\_\_\_\_\_\_ because ………. My favorite bread recipe is \_\_\_\_\_\_\_ because ……… athletes should eat plenty of carbohydrates before a game because …. Low carbohydrate diets are not good for you because ……  **Writing strategies:**  Raft writing strategy   * + Role – athlete   + Audience – sports nutritionist   + Format – menu   + Topic – healthy diet |
| **Communication 90 Second Speech Topics** | * Three benefits of eating whole grains are ……. * Tips for eating more whole grains are …. |
| **Other Essential Lesson Components** | |
| **Enrichment Activity** | If budget allows:   * Students may practice substituting whole wheat flour for a portion of all-purpose flour in recipes. * Compare hot air popcorn to microwave popcorn for flavor, popping time, calories, and nutrients.   **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**  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 a registered dietitian to speak to the class on the importance of whole grains and carbohydrates. * Invite a representative from the Women’s, Infants, and Children (WIC) program to speak to the class about the importance of the program for growing children. |
| **CTSO connection** | **Family, Career, and Community Leaders of America**  <http://www.texasfccla.org>  **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://www.servicelearning.org>  Example:  Students may visit an elementary school to teach students the benefits of whole grains. A lesson plan Growing with Grains is available from:   * Go with the Grain Grain Foods Foundation<http://gowiththegrain.org/> |

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)