**TEXAS CTE LESSON PLAN**

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| **Lesson Identification and TEKS Addressed** |
| **Cluster** | Hospitality and Tourism |
| **Course** | Culinary Arts |
| **Lesson/Unit Title** | Culinary Nutrition |
| **TEKS Student Expectations** | **130.254. (c) Knowledge and Skills**(4) The student demonstrates an understanding that personal success depends on personal effort. (E) The student is expected to evaluate the effects of exercise and nutritional dietary habits and emotional factors such as stress, fatigue, or anxiety on job performance(8) The student evaluates and determines equipment, ingredients, and procedures used in a professional food setting. (F) The student is expected to demonstrate baking techniques such as yeast breads and rolls, quick breads, and desserts |
| **Basic Direct Teach Lesson** |
| **Instructional Objectives** | **Students will:*** Identify the six nutrient groups
* Recognize the mineral and vitamins needed in the body
* Analyze the stressors of working in the foodservice industry
* Identify the dry and moist heat cooking methods
* Summarize 2010 the Dietary Guidelines for Americans
* Demonstrate dry and moist heat cooking
* Evaluate their personal wellness
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| **Rationale** | Nutrition is affecting the foodservice industry more and more with customers interested in how the foods they eat may benefit or harm them. Chefs understand this and apply their nutrition knowledge in creating healthy options.Knowing about nutrition will assist you as you pursue a career in the foodservice industry. |
| **Duration of Lesson** | Four 45-minute class periods |
| **Word Wall** | **Dietary Guidelines for Americans:** Updated every five years by the United States Department of Agriculture (USDA) and the Department of Health and Human Services (HHS). They provide authoritative advice for Americans ages 2 and older about consuming fewer calories, making informed food choices and being physically active to attain and maintain a healthy weight, reduce risk of chronic disease, and promote overall health**Dry cooking:** Cooking technique that uses oil, fat, the radiation of hot air or metal to transfer heat**Moist cooking:** Uses liquid instead of oil to create the heat energy that is needed to cook the food**Nutrient:** A substance that provides nourishment essential for the maintenance of life and for growth**Nutrition:** The process of eating the right kind of food so you can grow properly and be healthy**Stress:** A state of mental tension and worry caused by problems in your life, work and so forth |
| **Materials/Specialized Equipment Needed** | **Equipment:*** Computer with projector for PowerPoint presentation
* Computers with Internet access (be sure to follow school district guidelines)
* Light projector (Elmo)

**Materials:*** Cardstock
* Cookbooks
* Images of nutrients in food:
	+ Carbohydrates
	+ Lipids
	+ Minerals
	+ Protein
	+ Vitamins
	+ Water
* Zip-lock bags

**Supplies:*** As needed for dry and/or moist heat lab
* Copies of handouts

**PowerPoint:*** Culinary Nutrition

**Technology:*** Free iPad App:
	+ Nutrition FactHelps you learn about the nutrients and analyze your food choices.<https://itunes.apple.com/us/app/nutrition-fact/id465321334?mt=8>
* TED Talks:
	+ It’s not about the food | Ryan Hutmacher | TEDxVail “Eating healthy isn’t about deprivation, it’s about opportunity!” Ryan Hutmacher – An ironman competitor, CEO of Centered Chef & Chef for Weight Watchers looks past the food to unveil what really nourishes your soul. With dedication, he developed a “clean, simple, sexy” mantra. He discovers that, It’s Not About the Food, but a savory escapade that leads to personal wellness.<https://www.youtube.com/watch?v=qmnVdzzAuQk>

**Handouts:*** BINGO Templates
* Dietary Guidelines 2010 Brochure
* Rubric for Dry/Moist Cooking Laboratory Experience
* Wellness Evaluation

**Graphic Organizers:*** Dry and Moist Cooking Methods
* Dry and Moist Cooking Methods (Key)
* Minerals and Vitamins
* Minerals and Vitamins (Key)
* Nutrient Groups
* Nutrient Groups (Key)

**Teacher Resources:*** 2015 Dietary Guidelines Timeline
* Dietary Guidelines 2010
* Nutrient Chart
* Nutrients Activity
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| **Anticipatory Set** | **Before class begins:**Note: Culinary nutrition is different from the nutrition lesson in Lifetime Nutrition and Wellness that deals with the ChooseMyPlate.gov recommendations. Culinary nutrition is for the foodservice industry and deals more with the knowledge of nutrients and creating healthy options for customers. Print and cut apart the Nutrients Activity cards. The activity cards will be used in the Anticipatory Set and in the Lesson Closure sections (optional in the Guided Practice). Display as many items from the Materials or Specialized Equipment Needed tab as you have available on a table in front of the room so that students may view as they enter.Distribute one card from the Nutrients Activity cards to each student as they enter the classroom.Instruct the students to try and match the nutrient with the functions and food sources by asking each other what card they have. They may walk around the classroom and try to find two partners with matching cards.Once the students believe they have matched all three cards, they may display them on a board. Answers will be reviewed in the Lesson Closure section.Lead a discussion on the importance of nutrition in the foodservice industry as more and more customers have dietary restrictions. |
| **Direct Instruction with Special Education Modifications/****Accommodations** | Introduce lesson objectives, terms, and definitions.Select and distribute a handout or graphic organizer from the Instructional Strategies drop down menu in Classroom Essentials or instruct students to take notes in their journal books or on their own paper.Introduce the PowerPoint Culinary Nutrition. Students will be expected to take notes while viewing the slide presentation. Allow time for classroom discussion.Distribute the graphic organizers Nutrient Groups and Minerals and Vitamins and instruct the students to identify the nutrient groups and minerals and vitamins.View the videos from the Culinary Institute of America and Johnson and Wales University:* Healthy Kitchens, Healthy Lives® ConferenceHealthy Kitchens, Healthy Lives® is a four-day conference held at The Culinary Institute of America at Greystone in the Napa Valley. The conference brings together experts from Harvard School of Public Health, the Samueli Institute, and other leading organizations, to present state-of-the-science on diet and nutrition. These experts are joined by chefs from the CIA to lead teaching sessions for healthcare professionals who want to learn about techniques for cooking delicious healthy foods.<https://youtu.be/qGmmCNe4qLo>
* Nutrition: Breaking BoundariesJWU’s groundbreaking Culinary Nutrition program is changing the science of food – and it’s the first of its kind to receive ACEND accreditation. Ready to launch your dietitian, product research, spa chef or medical nutrition career?<https://youtu.be/xqb_YyrNHPk?list=PLSpZmcyjE5lYAW6yYcNE1KiJxG_SVIJLg>

*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:** check for understanding
* provide a copy of slide presentation
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| **Guided Practice with Special Education Modifications/****Accommodations** | Distribute a copy of the handout Dietary Guidelines 2010 Brochure and instruct the students to read the information.Place the teacher resource 2015 Dietary Guidelines Timeline on light projector and explain to the students that the new guidelines should be available in the fall.Have available the Dietary Guidelines for Americans 2010 so that students may view the full document.Distribute the handout Wellness Evaluation and instruct students to evaluate their wellness.Option 1: As review for the nutrients, distribute the BINGO Templates and instruct the students to fill in the squares with a nutrient. Use the Nutrient Activity cards to call out the functions and food sources.Option 2: Divide the class into subgroups of four. Place the Nutrient Activity cards in a zip-lock bag and instruct each group to connect the nutrient with its functions and food sources.Place the Nutrient Chart from the USDAWIC Program on a light projector to check for answers.Option 3: Divide the class into subgroups of four. Place the Nutrient Activity cards in a zip-lock bag and instruct each group to separate the nutrients into the six groups identifying all of the minerals and vitamins.*Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:** peer tutor
* check for understanding
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| **Independent Practice/Laboratory Experience with Special Education Modifications/Accommodations** | Divide the class into lab groups.**Read the following scenario:**A customer at your restaurant is requesting a healthy meal that is high in protein, vitamins, and minerals since he has some dietary restrictions. Your team already has nutritious meals on the menu and offer to cook a meal using a dry or moist cooking method. What will you prepare?Options for recipes to prepare for this lab may be found at:* USDA What’s Cooking? Mixing Bowl<http://www.whatscooking.fns.usda.gov/>

Other options include:* Cookbooks
* Cooking websites
* Recipe cards

Distribute the Rubric for Dry/Moist Heat Cooking Laboratory Experience so that students 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:** encourage creativity
* praise participation
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| **Lesson Closure** | Review terms, definitions, and objectives.Review the Nutrients Activity cards from the Anticipatory Set. Students may use a reference to check that the nutrient matches with the function and food sources.Ask students the following questions:* How does knowing the food sources of the nutrients help in the foodservice industry?
* Is culinary nutrition important in the foodservice industry?
* The Dietary Guidelines for Americans are revised every five years – why do you think this is important?
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| **Summative/End of Lesson Assessment with Special Education Modifications/****Accommodations** | 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:** praise participation
* allow for oral response
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| **References/Resources** | **Images:*** Shutterstock® images. Photos obtained with subscription.

**Textbooks:*** *Culinary essentials.* (2010). Woodland Hills, CA: Glencoe/McGraw-Hill.
* Draz, J., & Koetke, C. (2014). *The culinary professional.* Tinley Park, IL: Goodheart-Willcox Company.
* *Foundations of restaurant management & culinary arts.* (2011). Boston, MA: Prentice Hall.

**Website:*** USDAWIC Work Resource SystemAppendix C: Nutrient Chart – Function, Deficiency and Toxicity Symptoms, and Major Food Sources<http://www.nal.usda.gov/wicworks/Topics/FG/AppendixC_NutrientChart.pdf>

**YouTube:*** Healthy Kitchens, Healthy Lives® ConferenceHealthy Kitchens, Healthy Lives® is a four-day conference held at The Culinary Institute of America at Greystone in the Napa Valley. The conference brings together experts from Harvard School of Public Health, the Samueli Institute, and other leading organizations, to present state-of-the-science on diet and nutrition. These experts are joined by chefs from the CIA to lead teaching sessions for healthcare professionals who want to learn about techniques for cooking delicious healthy foods.<https://youtu.be/qGmmCNe4qLo>
* Nutrition: Breaking BoundariesJWU’s groundbreaking Culinary Nutrition program is changing the science of food – and it’s the first of its kind to receive ACEND accreditation. Ready to launch your dietitian, product research, spa chef or medical nutrition career?<https://youtu.be/xqb_YyrNHPk?list=PLSpZmcyjE5lYAW6yYcNE1KiJxG_SVIJLg>
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| **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
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| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** |
| **Reading Strategies** | Other articles pertaining to this lesson that students may read include:* Dietary Guidelines for Americans, 2010Includes 23 key recommendations for the general population and 6 additional key recommendations for specific population groups, such as pregnant women. The recommendations are intended to help people choose an overall healthy diet. <http://www.health.gov/dietaryguidelines/2010.asp>
* How to Cook Vegetables Without Losing NutrientsDieticians, doctors and the media seem to be constantly reminding us that we need to eat vegetables for their nutrients, antioxidants, and disease-fighting powers. But often when we cook vegetables, we lose the very nutrients we are trying to add to our diets. <http://www.ehow.com/how_2049734_cook-vegetables-losing-nutrients.html>
* How to Reduce Stress in Your Life  It’s common to feel stress at times in your life, but when chronic stress takes over, it can lead to physical ailments and reduce the quality of your mental health. <http://www.ehow.com/how_3830_reduce-stress-life.html>

**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** | Emeril is a one-in-a-million Renaissance man. In 2002, he established his foundation to support children’s educational programs to inspire and mentor young people through culinary arts, school food and nutrition. **-Robin Leach**Developing a diet that is healthful, balanced, and appropriate for your particular caloric needs is easy enough and is absolutely critical to establishing a healthful lifestyle that incorporates proper nutrition, adequate fitness, and mental resilience. **-Daphne Oz**The concept of being a locavore, or one who chooses whenever possible to incorporate locally grown or locally produced food into one’s nutrition plan, is of great importance. **-Tyler Florence**Go vegetable heavy. Reverse the psychology of your plate by making meat the side dish and vegetables the main course.**-Bobby Flay**I work out to eat. **-Bobby Flay** |
| **Writing Strategies** | **Journal Entries:*** In order to make healthy food taste good, chefs should …
* Vitamins and minerals are important nutrients because …
* Evaluating a person’s wellness is important because …
* Being able to cook food in the dry heat method will …
* Chefs in the food industry need to be knowledgeable about nutrition because …

**Writing strategy:**Raft writing strategy:* + Role – chef
	+ Audience – dietician
	+ Topic – healthy menu recommendations
	+ Format – email

Write an email to a dietician requesting healthier meal options to include in a menu. |
| **Communication 90 Second Speech Topics** | * Three things I know about nutrition are …
* Nutrition is the study of …
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| **Other Essential Lesson Components** |
| **Enrichment Activity** | Students may choose a nutrient to investigate the deficiencies and toxicity and present a report to the class.**TED Talk:**TEDx is a program of local, self-organized events that bring people together to share a TED-like experience. At a TEDx event, TEDTalks video and live speakers combine to spark deep discussion and connection in a small group. These local, self-organized events are branded TEDx, where x = independently organized TED event.The video below is related to this lesson. Allow students to view the video and lead a discussion concerning the TED Talk.**TED Talks:*** It’s not about the food | Ryan Hutmacher | TEDxVail“Eating healthy isn’t about deprivation, it’s about opportunity!” Ryan Hutmacher – An ironman competitor, CEO of Centered Chef & Chef for Weight Watchers looks past the food to unveil what really nourishes your soul. With dedication, he developed a “clean, simple, sexy” mantra. He discovers that, It’s Not About the Food, but a savory escapade that leads to personal wellness.<https://www.youtube.com/watch?v=qmnVdzzAuQk>
 |
| **Family/Community Connection** | Prepare a recipe from the dry/moist heat lab for your family and discuss the nutrients found in the foods you prepared. |
| **CTSO connection** | **Family, Career, and Community Leaders of America**<http://www.fcclainc.org>* Culinary ArtsA team event – recognizes participants enrolled in occupational culinary arts/food service training programs for their ability to work as members of a team to produce a quality meal using industrial culinary arts/food service techniques and equipment.
* Food InnovationsAn individual or team event – recognizes participants who demonstrate knowledge of the basic concepts of food product development by creating an original prototype formula, testing the product through focus groups, and developing a marketing strategy.
* Nutrition and Wellness EventAn 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.
* Sports NutritionAn 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.

**SkillsUSA**<http://skillsusa.org/>* Culinary ArtsThe competition will encompass both hot and cold food preparation and presentation. Contestants will demonstrate their knowledge and skills through the production of a four-course menu in a full day competition. The contestants will be rated on their organization, knife skills, cooking techniques, creative presentation, sanitation food safety techniques, and above all, the quality and flavor of their prepared items. The high school competitors will work from one menu with standardized recipes. The college/postsecondary students will work from a market basket format and write their own menu and recipes the night before the competition.
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| **Service Learning Projects** | Successful service learning project ideas originate from student concerns and needs. Allow students to brainstorm about service projects pertaining to this lesson.[www.ysa.org](http://www.ysa.org)Possible ideas:Plan a wellness and nutrition fair at your school during a sporting event highlighting healthy foods and exercise. |

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)