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Date: 10/27/2024

School: Poudre High School

Grade Level: 9-12

Content Area: Culinary Nutrition

Title: Understanding the Ketogenic Diet

Lesson #: _1_ of _1_

Content Standard(s) addressed by this lesson: *(Write Content Standards directly from the standard)*

NS9.3.1 Analyze nutrient requirements across the life-span addressing the diversity of people, cultures, and religions.

NS9.4.1 Analyze nutritional needs of individuals

NS14.2 Evaluate the nutritional needs of individuals and families in relation to health and wellness across the lifespan.

NS 14.0 Demonstrate nutrition and wellness practices that enhance individual and family wellbeing.

NS9.0- Integrate knowledge, skills, required for careers in food science, food technology, dietetics, and nutrition.

Understandings: *(Big Ideas)*

- The Ketogenic diet is a low-carbohydrate, high-fat diet that alters the body's metabolic state to encourage fat burning for energy.
- Different dietary patterns like the Ketogenic diet may be chosen for medical, cultural, or lifestyle reasons.
- The Ketogenic diet affects the body's energy sources, leading to potential health benefits and risks.
- For individuals with diabetes, especially Type 2, the Ketogenic diet can potentially improve blood glucose control and insulin sensitivity.

Inquiry Questions: *(Essential questions relating knowledge at end of the unit of instruction, select applicable questions from standard)*

- What factors influence someone's decision to follow a particular diet, such as the Ketogenic diet?
- How does the Ketogenic diet impact health and wellness, both positively and negatively?
- What are the scientific principles behind how the Ketogenic diet affects energy use in the body?
- How does the Ketogenic diet impact people with diabetes differently than those without it?
- Can a low-carb diet help prevent or manage diabetes?

Evidence Outcomes: *(Learning Targets/Objectives)*

Define the Ketogenic diet and explain its primary components and purpose

- **I can** explain what the Ketogenic diet is.
- **This means** I understand how a low-carb, high-fat approach works in the body.

Identify foods that are compliant or non-compliant with the Ketogenic diet and propose food alternatives

- **I can** identify which foods are allowed or restricted in a Keto diet.
- **This means** I can choose foods that are compliant and consider alternatives.

Explain the potential benefits and challenges of the Ketogenic diet for individuals with diabetes

- **I can** describe why some people with diabetes may benefit from Keto.
- **This means** I understand how low-carb diets can help with blood sugar control.

List of Assessments: *(Write the number of the learning target associated with each assessment)*

Formative: Note catcher completion (aligned with all LTs)

Summative: Active Listening while watching the recipe demonstration (LT 2, 3)

Reflection: Written reflection on Keto benefits and challenges (LT 1, 3)

List of Significant Vocabulary: *(List the significant vocabulary words and definitions for this lesson)*

Ketogenic diet - a low carb, high fat diet

Ketosis - a metabolic state where your body uses fat instead of carbohydrates for energy

Carbohydrates- Sugars and starches that are typically restricted on the Keto diet.

Insulin Sensitivity- The body's response to insulin, is improved through low-carb diets for some individuals.

Alternative Ingredients- Food substitutes like cauliflower, zoodles, and almond flour that mimic higher-carb options.

Planned Lesson Activities

Name, Purpose & Rationale of Lesson Why is this lesson important? What has already happened in this classroom surrounding the subject you will be teaching? What do students already know? Why are you going to teach this topic now? <u>What instructional strategy will you be using? Why did you choose this specific instructional strategy?</u>	Understanding the Ketogenic Diet This lesson is important because it shows students the different benefits of this diet, and also shows them how good food from this diet can taste.
Approx. Time and Materials/Procedures <i>How long do you expect the activity to last and what materials will you need? What do you need to collect, prepare, reserve, set-up, etc. ahead of time?</i>	25 minutes Note catcher (with categories: Medical/Allergy/Religious/Cultural or Lifestyle Choice, Causes/Why, Foods to Avoid, Alternatives), electric burner, hand mixer, ingredients for Keto-friendly recipe, visual aids/slides, a printed recipe for all of the students to follow along
Pre-Assessment <i>How will you pre-assess student's knowledge of the topic to be covered? Describe both formal and informal ways you will assess their knowledge</i>	Question: "Have you heard of the Ketogenic diet before? What do you think it involves?"
Anticipatory Set/Focus/Hook/Engagement/Motivation/Introduction <i>The "hook" grabs students' attention and engages them from the start. These are actions and statements by the teacher to relate the experiences of the students to the objectives of the lesson and to put students into a receptive frame of mind.</i> ● To focus student attention on the lesson. ● To create an organizing framework for the ideas, principles, or information that is to follow (advanced organizers) <i>An anticipatory set is used any time a different activity or new concept is to be introduced.</i>	Showing a TikTok Video about a challenge people will face when starting the Ketogenic diet. This is a couple of seconds long and gets students thinking about what a Ketogenic diet might look like. Questions: "What do you think makes a diet like Keto popular? Would you find it easy to avoid carbs?"
Procedures/Instructional Input/Learning Chunks/Scaffolding for Learning (this is the largest part of your lesson plan) <i>(Include a play-by-play account of what will happen in the class from the minute students arrive to the minute they leave)</i>	● Quick notes on what a keto diet is ○ Watch the video talking about type two diabetes ○ ask students questions while they are learning about it ■ What reasons have you heard people give for

<i>your classroom. Indicate the length of each segment of the lesson. List actual minutes.)</i> <i>Include the following components in scripted format:</i> -Teacher input-what you will share (lecture outline, notes of interest, facts, vocabulary, description of activities, etc.) -Modeling – (demonstrations, stories, examples, etc.) -questioning strategies (what questions will you ask to CSU) -guided/unguided: -whole-class practice -group practice -individual practice -check for understanding -other (FCCLA, FFA, etc. connection)	- following a diet? ■ How do you think Keto could impact someone's daily energy or focus? ■ What's one pro or con that stands out to you? ■ ● Demonstration of Egg Roll in a Bowl ○ chop vegetables ○ brown turkey meat ○ mix in vegetables and seasonings ○ Cook cabbage and serve Slideshow Presentation Talking Points for Demo Recipe FCCLA - Culinary Arts and Nutrition and Wellness
Closure/Conclusion/Summary/Adjustments/ Wrap-up/Clean-up <i>Those actions or statements by a teacher that are designed to bring a lesson presentation to an appropriate conclusion. Used to help students bring things together in their own minds, to make sense out of what has just been taught. "Any Questions? No. OK, let's move on" is not closure. Closure is used:</i> ● To cue students to the fact that they have arrived at an important point in the lesson or the end of a lesson. ● To help organize student learning <i>To help form a coherent picture and to consolidate.</i>	● Go over key takeaways and ending questions ○ What foods would be hardest to give up? ○ Would you try Keto? Why or why not? ● Allow the students to all get to try the food
Differentiation/Modifications/Adaptations/Accommodations <i>To modify: If the activity is too advanced for a child, how will you modify it so that they can be successful?</i> <i>To extend: If the activity is too easy for a child, how will you extend it to develop their emerging skills?</i>	If a student is unable to watch the demonstration because the amount of people close to them makes them uncomfortable, there will be a video of the same demonstration that they can watch by themselves. If a student already knows/is on this diet, they will be able to talk about how the diet has impacted them so that they can share with their classmates.
Assessment/Pre-Post/On-going <i>How will you know if students met the learning targets?</i> <i>Review each learning target and determine the assessment that met that target. Can the students answer your inquiry</i>	Note catcher completion Active Listening while watching the recipe demonstration

<i>questions? Write a description of what you were looking for in each assessment.</i>	Written reflection on Keto benefits and challenges
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