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| **TEXAS CTE LESSON PLAN**  [www.txcte.org](http://www.txcte.org) | |
| **Lesson Identification and TEKS Addressed** | |
| **Career Cluster** | Human Services |
| **Course Name** | Lifetime Nutrition and Wellness |
| **Lesson/Unit Title** | Type I Diabetes Investigation |
| **TEKS Student Expectations** | **130.274. (c) Knowledge and Skills**  (4) The student demonstrates knowledge of nutritionally balanced diets. The student is expected to:  (B) outline strategies for prevention, treatment, and management of diet-related diseases such as diabetes, hypertension, childhood obesity, anorexia, and bulimia |
| **Basic Direct Teach Lesson**  (Includes Special Education Modifications/Accommodations and  one English Language Proficiency Standards (ELPS) Strategy) | |
| **Instructional Objectives** | **Students will:**   * Discover how to research a childhood disease, illness or ailment * Understand and be able to explain the various aspects of Type 1 Diabetes * Explore how Type 1 Diabetes affects the human body * Design a 60 second public service announcement |
| **Rationale** | As a caregiver or educator, how would you respond to a parent that informed you that their child had been diagnosed with a life-threatening illness, disease, or ailment? Would you be familiar with the signs and symptoms of the disease? How prepared would you be to deal with a classroom student that had been diagnosed with this ailment?  The world of an educator is not only filled with unexpected circumstances, but also a multitude of learning opportunities. This lesson will focus on how to arm yourself with accurate, possibly life-saving information to assist you in appropriately engaging with the school nurse, the student’s parents and the student diagnosed with Type I Diabetes (formerly known as Juvenile Diabetes).  The same procedures can be used to research and gain knowledge for any childhood disease or ailment.  NOTE TO TEACHER: While this lesson specifically focuses on Type I Diabetes, the lesson can be modified to have each student or teams of students investigate other childhood diseases, illness or ailments. |
| **Duration of Lesson** | Five to six 45-minute class periods |
| **Word Wall/Key Vocabulary**  *(ELPS c1a, c, f; c2b; c3a, b, d; c4c; c5b) PDAS II (5)* | The terms and definitions to be used with this lesson will be generated by the students. Terms that may be addressed include:  **504 plans:**  **A1C:**  **Glucose:**  **Hyperglycemia:**  **Hypoglycemic:**  **Insulin:**  **High blood sugar:**  **Low blood sugar:**  **Pancreas:**  **Type 1 diabetes:** |
| **Materials/Specialized Equipment Needed** | **Equipment:**   * Computer with projector for multimedia presentation * Computer lab with internet (be sure to follow district guidelines)   **Materials:**   * Index cards * Cardstock * Diabetes related brochures – request from school nurse, local diabetes association, local clinic, doctor’s office or print from diabetes websites   **Supplies:**   * Glucometer (if available) * Test strips (if available) * Variety of junk food (wrappers only) * Variety of nutritious foods   Note: If testing supplies are not available, print images from the Internet.   * Copies of handouts   **PowerPoint:**   * Type 1 Diabetes Investigation   **Technology:**   * Free iPad App:   + T1Life The official mobile application of the Type 1 diabetes community.<https://itunes.apple.com/us/app/t1life/id630886585?mt=8> * TED Talks:   + Peter Attia: Is the obesity crisis hiding a bigger problem? As a young surgeon, Peter Attia felt contempt for a patient with diabetes. She was overweight, he thought, and thus responsible for the fact that she needed a foot amputation. But years later, Attia received an unpleasant medical surprise that led him to wonder: is our understanding of diabetes, right? Could the precursors to diabetes cause obesity, and not the other way around? A look at how assumptions may be leading us to wage the wrong medical war.<http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes>   **Graphic Organizers:**   * Anticipation Guide for Type 1 Diabetes * FCCLA Planning Process * I Want to Know… Note-taking * Type 1 Diabetes Project Options   **Handouts:**   * Certificate of Excellence * Example of Wordle * Rubric for Type 1 Diabetes Awareness Publish Service Announcement |
| **Anticipatory Set**  (May include pre-assessment for prior knowledge) | **Before class begins:**  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. Terms related to the lesson can also be part of the display.  Distribute the graphic organizer Anticipation Guide for Type 1 Diabetes to students as they enter the classroom and instruct them to view the items on the display table.  As a class, have students brainstorm what they already know about Type 1 Diabetes.  Ask the following questions:   * Do you know anyone with Type 1 diabetes? * Do you know the difference between Type 1 and Type 2 diabetes? * How could you help someone with Type 1 diabetes? * Do you know where to locate information for this disease? |
| **Direct Instruction \*** | Introduce lesson objectives, terms and definitions.  Distribute graphic organizer I Want to Know… so that students may take notes during slide presentation.  NOTE TO TEACHER: The purpose of this lesson is to provide students with a model for investigating any childhood disease, ailment, or illness. The sole purpose of the slide presentation is to assist them in developing the type of questions they would like answered. Learning will be completely student led.  Introduce slide presentation Type 1 Diabetes Investigation and lead brainstorming as slides are viewed. Type 1 Diabetes Presentation Notes have been provided to assist with dialog during the presentation. Allow time for student questions and discussion.  View YouTube video:   * JDRF Type 1 Diabetes 101 An educational video about type 1 diabetes signs, symptoms, and treatment, featuring kids and teens with the disease.<http://youtu.be/E0M4oxBtnXo>   *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 * note-taking assistance |
| **Guided Practice \*** | After viewing slide presentation, divide the class into subgroups of three or four and provide the following scenario:  Mrs. Moreno, a third-grade teacher at Rodgers Elementary School, has been called into the office for a parent conference. Mrs. Carla Spoon dale, parent of 10-year-old Jeremy Spoondale, informs her, the school nurse, and the school counselor that Jeremy’s doctor has just diagnosed him with Juvenile Type 1 diabetes. How will your team respond to the parent?  Your team has been selected to research this childhood disease. Distribute the handout Type 1 Diabetes Project Options.  Allow teams to select a project option from the sheet or assign a project to each team. It is important that all projects be addressed. Blank cards are available for other project ideas.  Determine the amount of time you would like to allow for this portion of the lesson (three to four days). Be sure to allow time for students to present their findings to the class.  Based on student findings, as a class, determine terms and definitions for lesson word wall. A word cloud program such as one below may be created with the selected terms and definitions. View the teacher resource Example of Wordle for ideas.   * Wordle  Generates word clouds<http://www.wordle.net/>   *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * peer tutor * encourage participation |
| **Independent Practice/Laboratory Experience/Differentiated Activities \*** | Once again, divide the class into subgroups of three or four students or continue to use the same teams from previous activity.  Read the following scenario to the groups:  Your city is sponsoring a competitive event to raise awareness of childhood diseases, ailments, and illnesses. Your team has decided to enter the competition and develop a 60 second public service announcement (PSA) that promotes Type I Diabetes awareness. How will your team inform the community about Type 1 Diabetes?  Distribute the handout FCCLA Planning Process Template to each team and instruct the students to utilize this handout or other decision-making organizer to plan your project.  Students may use one of several media presentation programs available in the Classroom Essentials section:   * Free Media and Technology Tools   Review the Rubric for Type I Diabetes Awareness PSA so that students understand how their PSA’s will be assessed.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * reduce assignment * group with peer tutors |
| **Lesson Closure** | Review lesson objectives, terms, and definitions.  Re-distribute the graphic organizer Anticipation Guide for Type 1 Diabetes used in the Anticipatory Set and allow students to revisit each statement.  Students should place a checkmark by the statements they now know to be true on the right-side column. |
| **Summative/End of Lesson Assessment \*** | Each team will present their Type 1 Diabetes Awareness PSA.  Allow students to vote on the best PSA. The team members developing the PSA with the most votes will each receive a Certificate of Excellence for their career portfolio.  Type 1 Diabetes Public Service Announcements will be assessed the appropriate rubric.  *Individualized Education Plan (IEP) for all special education students must be followed. Examples of accommodations may include, but are not limited to:*   * assistance with presentation * praise participation |
| **References/Resources/**  **Teacher Preparation** | **Websites:**   * American Diabetes Association Articles and resources on diabetes<http://www.diabetes.org/diabetes-basics/type-1/?loc=util-header_type1> * Juvenile Diabetes Research Foundation (JDRF) Improving Lives Curing Type 1 Diabetes The leading global organization funding type 1 diabetes (T1D) research<http://jdrf.org/> * Wordle  Free program to create word clouds<http://www.wordle.net/> |
| **Additional Required Components** | |
| **English Language Proficiency Standards (ELPS) Strategies** | Provide student(s) with index cards.  Allow student(s) to create Vocabulary Cards for each lesson term in the following manner:   * The word and its definition in the front * A drawing and the vocabulary word in a sentence in the back   Cards can be accumulated throughout the school year and kept on a binder ring. |
| **College and Career Readiness Connection[[1]](#footnote-1)** |  |
| **Recommended Strategies** | |
| **Reading Strategies** | Other articles pertaining to this lesson:   * History of Diabetes Resource that will assist you in your efforts to locate reliable, scientifically verified information and data about diabetes<http://www.diabetes.org/research-and-practice/student-resources/history-of-diabetes.html?loc=rp-slabnav> * Living with Type 1 Diabetes At its core, proper type 1 diabetes management is composed of a handful of elements: blood glucose, the main sugar found in the blood and the body’s main source of energy. <http://www.diabetes.org/living-with-diabetes/recently-diagnosed/living-with-type-1-diabetes.html> * **Reading Strategies** Allow students to utilize Word Attack Strategies with this or any other topic related article.  Prior to reading, allow students to skim the passage or text, circling words that are unfamiliar to them. Once these words are decoded (glossary, dictionary, dictionary.com, classroom discussion), students will have a better understanding of the pronunciation and meaning of the unfamiliar word(s), facilitating comprehension. |
| **Quotes** | Life is not over because you have diabetes. Make the most of what you have, be grateful.  **-Dale Evans**  Trying to manage diabetes is hard because if you don’t, there are consequences you’ll have to deal with later in life. **-Bryan Adams**  I was determined to share my positive approach and not let diabetes stand in the way of enjoying my life. **-Paula Deen**  Diabetes is an all-too-personal time bomb which can go off today, tomorrow, next year, or 10 years from now – a time bomb affecting millions like me and the children here today. **-Mary Tyler Moore**  There are five issues that make a fist of a hand that can knock America out cold. They’re lack of jobs, obesity, diabetes, homelessness, and lack of good education. **-will.i.am**  My diabetes is such a central part of my life… it did teach me discipline… it also taught me about moderation… I’ve trained myself to be super-vigilant… because I feel better when I am in control. **-Sonia Sotomayor** |
| **Writing Strategies**  **Journal Entries + 1 Additional Writing Strategy** | **Journal Entries:**   * I did not know that Type 1 Diabetes … * Children with Type 1 Diabetes must … * Parents of children with Type 1 Diabetes must … * A child with undiagnosed Type 1 diabetes … * If Type 1 Diabetes …   **Writing Strategy:**   * RAFT (Role/Audience/Format/Topic) writing strategy:   + Role – parent   + Audience – school personnel   + Format – letter   + Topic – child’s diagnosis of Type 1 Diabetes   Inform the school personnel of Type 1 Diabetes diagnosis for your child. |
| **Communication**  **90 Second Speech Topics** | * Three things I have learned about Type 1 Diabetes are … * Children with Type 1 diabetes … |
| **Other Essential Lesson Components** | |
| **Enrichment Activity**  (e.g., homework assignment) | Conduct an in-depth research on the topic of Type 1 Diabetes. Collaborate with an English teacher to determine acceptable parameters and formatting of resources.  **TED Talk:**  TED is a nonprofit organization devoted to spreading ideas, usually in the form of short, powerful talks (18 minutes or less).  The video below is related to this lesson. Allow students to view the video and lead a discussion concerning the TED Talk.  Peter Attia: Is the obesity crisis hiding a bigger problem? As a young surgeon, Peter Attia felt contempt for a patient with diabetes. She was overweight, he thought, and thus responsible for the fact that she needed a foot amputation. But years later, Attia received an unpleasant medical surprise that led him to wonder: is our understanding of diabetes, right? Could the precursors to diabetes cause obesity, and not the other way around? A look at how assumptions may be leading us to wage the wrong medical war.<http://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes> |
| **Family/Community Connection** | * Students may investigate job possibilities:   + Child Life Specialist   + diabetes educator   + dietitian   + insulin pump trainer   + Juvenile Diabetes Research Foundation employee   + medical supply agent   + school nurse   + specialized camp counselor (examples: Texas Lion’s Camp, Camp Sweeney)   Student developed Type 1 Diabetes Public Service Announcements may be shared with the school faculty, staff and students, as well as parents and/or the community. |
| **CTSO connection(s)** | **Family, Career and Community Leaders of America**  <http://www.fcclainc.org>   * Advocacy An individual or team event, recognizes participants who demonstrate their knowledge, skills, and abilities to actively identify a local, state, national or global concern, research the topic, identify a target audience and potential partnerships, form an action plan and advocate for the issue in an effort to positively affect a policy or law. Participants must prepare a portfolio, an oral presentation and complete a case study. * Chapter Service Project Display and Portfolio A team event – recognizes chapters that develop and implement an in-depth service project that makes a worthwhile contribution to families, schools and communities. Students must use Family and Consumer Sciences content and skills to address and take action on a community need. * Focus on Children An individual or team event – recognizes participants who use Family and Consumer Sciences skills to plan and conduct a child development project that has a positive impact on children and the community. * Illustrated Talk An individual or team event – recognizes participants who make an oral presentation about issues concerning Family and Consumer Sciences and/or related occupations. Participants use visuals to illustrate content of the presentation. * Interpersonal Communications An individual or team event – recognizes participants who use Family and Consumer Sciences and/or related occupations skills and apply communication techniques to develop a project designed to strengthen communication   **SkillsUSA**  <http://www.skillsusa.org/>   * Community Action Project (Demonstration) Purpose: To evaluate a team of two contestants’ ability to develop, execute, document and present a project that was completed in their community or school, which provides a benefit to the community or the school. To evaluate local activities that benefit the community and to recognize excellence and professionalism in the area of community service. This event also enables the community to become aware of the outstanding work being performed by career and technical education students.   **TAFE**  <http://www.tafeonline.org>   * Bulletin Board Competition An individual or team event that recognizes participants who demonstrate their knowledge, skills and ability to create a bulletin board display for teaching and/or for student interaction. Participants must prepare a display board and an oral presentation introducing the display and summarizing how it could be used in a classroom setting to teach a lesson. The display board may be no larger than 36” x 48”. * Creative Lecture Competition An individual event that is designed to highlight students who demonstrate valuable skills for all educators. Storytelling and effective oral communication skills are vital qualities for professional success. Captivating an audience and sustaining their attention and wonder with a compelling topic remains one of the most valuable abilities in an increasingly networked society. * Project Visualize Contest  A team event that recognizes participants who illustrate one of their chapter’s projects. The project must be from one of the areas of the TRAFLES. Contestants will thematically construct a cardboard tri-fold display (36” x 48”). Participants must prepare a display and an oral presentation introducing the display and summarizing the project. * Service Project Presentation Competition A team event. Participants must prepare a display and an oral presentation introducing the display and summarizing the project. |
| **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:  Students can promote Type 1 Diabetes Awareness in your community.  World Diabetes Day – November 14 International Diabetes Federation<http://www.idf.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)