

### Cabaniss 766 Alignment Template

**Description of the Project:**

This learning solution will be entirely online and will focus on teaching high school (and college level students in remedial science classes) how to better read, summarize and analyze scientific and technical text, data and research using the topic of risk factors for Type 2 Diabetes. Then, the unit will take them through learning about Type 2 Diabetes Mellitus, the Circulatory System, the Pancreas and what it does to help regulate blood sugar and finally what sugar is and the damage too much of it in the bloodstream can cause to blood vessels, capillaries, etc... and how that presents in disease symptoms. This is actually a huge learning module that will take multiple weeks, but will teach biology concepts in an integrated manner. The hope is that students can relate this information directly to their lives and retain the ancillary learning as well (such as how the circulatory system functions, how the pancreas is involved with the homeostasis of sugar regulation, etc...) because they are being exposed to these concepts in context with an issue that relates to them.

**Terminal Objective:** Students will read and assess multiple data sets from published research, in the form of graphs or data tables, on one general topic and be able to describe to peers at least four trends they see in the data.

Enabling Objectives	Assessment	Absorb Activity	Do Activity/Connect Activity
<p>Students will be able to identify which data is supported by a bar graph showing rates of diabetes in the U.S. amongst five different ethnic groups and genders.</p>	<p>Discussion with peers where they choose one of three different questions that require them to understand and analyze what they are seeing in the data.</p>	<p>What is Your Risk of Getting Type 2 Diabetes?</p> <p>After looking at the first bar graph, students submit their risk of getting diabetes based on ethnicity and gender as high, low or medium and get a game point for doing</p>	<p><b>Discussion Requirements:</b>            Students will review the three different sets of data - just the graphs and data tables and enter a discussion with their peers where they are given three options of what to do:</p> <ol style="list-style-type: none"> <li>1. Write about three things that surprised them in the data.</li> <li>2. Write about three things that they think everyone should know from the data.</li> </ol>

		so.	<p>3. Write about three things they are most worried about for their own family that relate to the data they just saw.</p> <p><b>Quiz</b> Quiz that asks students to identify which multiple choice options are supported by the data they've been studying.</p>	
Students will look at a graph that displays dietary intake data showing cause and effect relationships between certain types of food and diabetes risk factors and be able to compare and contrast at least two different trends.	Online quiz that asks students to identify multiple choice options that are valid per the data for at least four trends they see in the data.			
Students will look at a graph and some reading of an explanation of the graph regarding genes associated with Type 2 Diabetes risk and be able to state evidence supporting the notion that Type 2 Diabetes has a genetic component as well.			<p><b><u>Do Activity</u></b></p> <p>A drag and drop matching game on information in the graphic. (I will be rewriting the technical summary to meet a 10th grade reading lexile)</p>	

**Terminal Objective:** Students will be able to read and identify the findings of a research study in an abstract-like paragraph and an actual abstract.

Enabling Objectives	Assessment	Absorb Activity	Do Activity	Connect Activity
Students will be able to identify the key concepts that are introduced in a video on the epidemic of Type 2 Diabetes.	Online quiz about the video that students take after watching the video.	Students watch a video on diabetes (which I will need to make cc for and add alt tags(?) if possible) and then a real research abstract on diabetes risk.	<p>Students watch the video about Type 2 Diabetes and the epidemic amongst children!</p> <p>Take an online quiz about the video afterwards.</p>	

<p>Students will be able to list and explain at least four practices that can help them read a scientific paper without giving up.</p>	<p>S will make a flyer or handout or graphic for their peers on how to read real scientific papers.</p>	<p>Students will be given a pre-quiz that asks them to identify good examples of what to do when reading a scientific paper.</p>	<p>S will read two articles about how to read scientific articles:  <a href="http://www.sciencemag.org/careers/2016/03/how-seriously-read-scientific-paper">http://www.sciencemag.org/careers/2016/03/how-seriously-read-scientific-paper</a>   <a href="http://www.owlnet.rice.edu/~cainproj/courses/HowToReadSciArticle.pdf">http://www.owlnet.rice.edu/~cainproj/courses/HowToReadSciArticle.pdf</a></p> <p>S will make a flyer or handout or graphic for their peers on how to read real scientific papers.</p>	
<p>Students will practice reading and extracting reading from two real peer reviewed journal articles on diabetes by reading the articles and being asked to identify the key points in each section of the papers.</p>	<p>S will have a formative assessment that allows them to pick from four different multiple choice options for each section of the research article they read, asking them to choose the correct conclusion or concept from that section (pop up windows)</p> <p>S will also have an alternative summative assessment where they find their own research article, summarize it and say why they chose it.</p>		<p>S will have a formative assessment that allows them to pick from four different multiple choice options for each section of the research article they read, asking them to choose the correct conclusion or concept from that section (pop up windows)</p>	<p>Finally, students find a science research article about something that appeals to them personally, submit it and write one paragraph about its meaning and why they chose it.</p>

<p>Students will reflect on how they feel at this point in the program.</p>	<p>Exit ticket of sorts – ask students to write how it is going for them, how they feel about their progress and any suggestions about what they'd like to see change?</p>		<p>Exit ticket – ask students to write how it is going for them, how they feel about their progress and any suggestions about what they'd like to see change?</p>	
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