# Overview

**Health, Nutrition, and Type 2 Diabetes**

**Genome Sciences Education Outreach**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Description</th>
<th>Activities</th>
</tr>
</thead>
</table>
| **Lesson 1**  
Genes and Environment | Students explore unit themes through a Silent Chalk Talk conversation. Students then see how diabetes and obesity have increased dramatically in the United States over the last two decades by watching a slide set from the CDC. Students consider how the environment has changed during this time. | - Silent Chalk Talk  
- CDC slide set illustrating the dramatic increase in t2d  
- *The Bigger Picture* video  
- SMART goal creation |
| **Lesson 2**  
Our Environment: Access and Choice | Students learn how type 2 diabetes is influenced by our environments and assess their own environmental risk factors for type 2 diabetes. Students learn how the change in environment for one population has impacted their health over time. | - Pencil/paper risk tally to determine environmental risks  
- *Diabetes Among Native Americans* video clip |
| **Lesson 3**  
Glucose: From Fuel to Toxin | Students model glucose as the building block of most carbohydrates and learn how blood glucose balance is maintained (or not) when type 2 diabetes develops. Students then create analogies to explain the roles of glucose, insulin, and the pancreas in balancing blood glucose levels. | - Paper cut-out model of carbohydrates, fiber, glucose  
- Blood glucose traffic analogy  
- Student-made analogies |
| **Lesson 4**  
What Are We Eating? | Students examine food and drink labels and calculate the percentage of proteins, fats, and carbohydrates contained in different foods and drinks, and visually illustrate liquid sugars in a beverage. Students consider changes in diet over time and figure out how different types of food impact blood glucose levels. | - Food label calculations to determine calories from fat, carbohydrates, and protein  
- Visual demonstration of sugar in drinks |
| **Lesson 5**  
An Ounce of Prevention | Students learn ways in which exercise can aid in treating and preventing type 2 diabetes and determine durations of physical activity required for balancing calories consumed and calories burned. | - Fun size candy bar demonstration  
- Use of Activity Calculator |
| **Assessment** | Students make final contributions to the Chalk Talk posters, identify themes for the unit, and assess the SMART goals they set for themselves. Lastly, students consider how they might make a meaningful contribution to the prevention of type 2 diabetes. | - Silent Chalk Talk final visit and debrief  
- SMART goal assessment |

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