

Overview

Health, Nutrition, and Type 2 Diabetes

Genome Sciences Education Outreach

Lesson	Description	Activities
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.	<ul style="list-style-type: none"> • Silent Chalk Talk • CDC slide set illustrating the dramatic increase in t2d • <i>The Bigger Picture</i> 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.	<ul style="list-style-type: none"> • Pencil/paper risk tally to determine environmental risks • <i>Diabetes Among Native Americans</i> 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Silent Chalk Talk final visit and debrief • SMART goal assessment