Diagnosis and Prevention of Diabetes

**My Students:** 8.9 out of every 100 adults in Mississippi has diabetes. Mississippi and Alabama are tied for first in the nation for the ratio of people with diabetes in the general population. Educating students to recognize warning signs and avenues to prevent non-genetic diabetes is imperative.

My students live in a high poverty area in Mississippi and most have free or reduced lunch status. I feel my students, their families, and communities could greatly benefit by conducting a series of diabetes-related labs. Edgar Dale states after 30 days, students remember: 10% of what they hear; 15% of what they see; 20% what they hear and see; 40% of what they discuss; 80% of what they do! My students love lab days!!!! The most awesome experience as a high school educator is to have students choose college majors that pertain to your subject. This is my third year teaching biomedical research. 100% of my biomedical research students have enrolled in higher education and over 95% have chosen health-related fields. I want to inspire my students even more to major in areas specific to diabetes and obesity, since these are the areas which may plague their own health, as well as the health of their families and community.

**My Project:** Diabetes mellitus is a group of diseases that result in high blood glucose levels. Causes of diabetes tend to be a combination of genetic background and environmental factors. Each of the five activities in this kit explores a different aspect of diabetes. Students compare a “normal” DNA strand with one that has a mutation known to cause diabetes, test solutions with glucose test strips to determine the glucose levels of each, examine the disorder from a Mendelian perspective (pedigrees), work out a diet according to ADA guidelines and investigate techniques used to determine if a person carries the genes for diabetes.

Americans are increasingly overweight and sedentary. For 2010 Mississippi has claimed the title of fattest state for the fifth consecutive year. According to recent estimates from the Centers for Disease Control and Prevention, diabetes will affect one in three people born in 2000 in the United States. I want the opportunity to empower my students to make better life choices so they can reduce their diabetic risk.

My students need two diabetes activity kits so they can gain a better understanding of diabetes.

<table>
<thead>
<tr>
<th>Project Details</th>
<th>Materials</th>
<th>Vendor</th>
<th>Price</th>
<th>#</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Activity</td>
<td>Sargent-Welch</td>
<td>$72.59</td>
<td>2</td>
<td>$145.18</td>
<td></td>
</tr>
</tbody>
</table>

Vendor Shipping Charges $0.00
State Sales Tax $10.16
3rd Party Payment Processing Fee $2.18
Fulfillment Labor & Materials $35.00

Project Cost Excluding Donation to Support DonorsChoose.org

Dear The Barksdale Foundation,

Thank you so much for your generous donation. Most of the students in my classes have either experienced issues with diabetes or have close family members who have Type 2 diabetes. My students were amazed at how many of them exhibit precursors for diabetes. Because of the details within the kits and book, my students are able to better analyze results from diabetic testing. They can determine healthy alternatives to prevent diabetes from progressing to more serious stages and possibly prevent personal diabetes all together. WOW!!! I can not thank you enough for the amazing impact you have made in my students and their families’ lives.

With budget shortfalls, my students would have not been able to experience this vital resource. My students now understand how to distinguish the types of diabetes, causes, symptoms, and treatments for diabetes. Thank you!

Without the generosity of donors like you, my classroom and others like mine would simply go without these wonderful experiences.

With gratitude,
Ms. Nobles