# Blood Glucose Lab

We are going to test the blood glucose levels in several students to see how they are affected by drinking a typical 12 oz. can of soda. Normal blood glucose levels in a fasting subject should be between 60-100 mg/dL. After drinking or eating a sugary food the blood glucose level will climb as the glucose is absorbed into the blood stream. The hormone insulin is secreted by the pancreas in response to this high blood glucose level and triggers a response that should result in a lowering of the blood glucose level in the matter of an hour or so. The excess glucose will be stored as glycogen or fat.

In this lab we will have several (3-5) students test their "fasting" blood glucose level first to get a baseline. Then each student volunteer will drink a soda containing approximately 40g of sugars (sucrose, glucose, high fructose corn syrup) in less than 5 minutes. We will test the blood glucose again at 15, 30, 60 and 90 minutes. The results will be plotted on a graph with blood glucose level on the y-axis and time in minutes on the x-axis.

1. Test blood glucose by pricking a finger using a lancet and placing a nice round drop of blood on a test strip in the glucose meter. Record the results of each student in a table as shown on the board. This will be the 0 minute test. Choose students who have not recently consumed any calories. Several hours or more since last intake is best.
2. The test subjects will drink a 12 oz. (355mL) can or bottle of soda in less than 5 minutes. All subjects should start drinking at the same time so that all future tests will be on the same schedule.
3. Do another glucose test at 15 minutes after the time when the students took their first drink. (Not 15 minutes after they finished.)
4. Repeat the blood glucose tests again at 30, 60 and 90 minutes. Recording the data for all students in the table.
5. When finished create one graph showing the changing blood glucose levels of all test subjects over time. Use different symbols and/or line types to distinguish between students. Connect the data points with straight lines.
6. Answer the following questions:
    a. How long after drinking the soda did blood glucose level typically peak?
    b. What was the average increase in blood glucose for the group?
    c. What were the highest and lowest peak glucose levels among the students?
    d. Did all the students eventually return to their original blood glucose level?
    e. Can you explain any differences in glucose responses among the students considering their self reported last caloric intake or dietary habits?