



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Gina M. Little	Project Number S1008
Project Title The Effects of Diet on Blood Glucose	
Abstract Objectives/Goals The purpose of this project is to investigate the relationship between blood glucose and diet in non-diabetic humans. It is believed that after one consumes a high carbohydrate meal, his or her blood glucose will be high. It is also believed that after one consumes a low carbohydrate meal, his or her blood glucose will be low. Methods/Materials Blood glucose was measured using a finger prick and a glucometer on four non-diabetic human subjects prior to meals and then again one half hour, one hour, two hours, and three hours after eating. The meals consumed were following specific diet types: the subjects' usual eating patterns, the food pyramid diet, a low carbohydrate diet, and a high carbohydrate diet. Results Results show that the high carbohydrate diet, the food pyramid diet, and the usual eating patterns diet resulted in a greater fluctuation of blood glucose, including a drop in glucose seen one half hour and one hour after eating rather than the anticipated increase in glucose. Two older subjects had greater highs and lows than the two younger subjects. Blood glucose after the low carbohydrate meals showed the least fluctuation, both initially and several hours after. Conclusions/Discussion Results of this experiment suggest that a low carbohydrate diet does keep the blood glucose steady with the least fluctuation. On the other hand, when diets with higher amounts of carbohydrates are consumed, greater fluctuations in blood glucose are seen. Further research could be done to study the effects of different types of carbohydrates (monosaccharides, disaccharides, and polysaccharides) would have on blood glucose levels. It would also be interesting to study the effects that age has on blood glucose levels.	
Summary Statement This project investigated the relationship between diet and blood glucose in non-diabetic humans.	
Help Received Mother, a registered nurse, assisted with obtaining blood specimens for testing and proper disposal of materials.	