



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Wardah A. Bari</b>	<b>Project Number</b> <b>S0302</b>
<b>Project Title</b> <b>Eating Smart for a Healthy Start: Part II</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective is to determine which type of breakfast-high protein, high fiber, complex carbohydrates, junk food, or no breakfast (control) - will help students excel in their studies to maximize capabilities.</p> <p><b>Methods/Materials</b> After gathering about 45 students, I created a two-week diet plan with the consult of a dietician. In the diet plan I included the 5 types of diets being tested: high protein, fiber, junk food, complex carbohydrates, and no breakfast (control). Every morning after eating the breakfast, I would pass out two tests: memory and mental agility (multiplication). Once the tests were conducted, I graded both memory and mental agility tests every day and entered the results in an excel spreadsheet. I computed the average, median, and mode. For further evaluation, I did statistical analysis using the 2-Proportion Z test. Finally I created graphs comparing the different types of diets.</p> <p><b>Results</b> To obtain the results, the average of the median multiplication and memory scores for each breakfast type were calculated. The overall results were complex carbohydrate- 94%, protein-90%, no breakfast- 90%, fiber-87%, and junk food- 87%. These results were based on a 2-week testing period. For further results, statistical analysis was used to see if there was any major difference in different breakfast types. At a 95% confidence level, we can say there was very slight difference in the different breakfast types and relevancy to the test scores.</p> <p><b>Conclusions/Discussion</b> I surmised that a healthy breakfast high in complex carbohydrates would be the best diet for students to excel in studies and capabilities. Based on my research the glucose found in the carbohydrates is what keeps the brain up and running throughout the day. The memory tests showed that eating a breakfast with complex carbohydrates would increase your memory capabilities. However my hypothesis was not completely correct because on the overall mental agility test, the protein diet was the most helpful. I have come to the conclusion that eating not just one type of breakfast, carbohydrates, but rather mixing with protein and carbohydrates can help a student excel with student capabilities. A breakfast is the complete key to success and to excel in mental capabilities that can help greatly for your long term achievements.</p>	
<b>Summary Statement</b> My project shows the importance of breakfast and its potential to enhance mental capabilities.	
<b>Help Received</b> Consulted Dietitians and Physicians for research: Dr. Sultan Shaw, Dr. Omar Ahmed, Dr. Kelly Ahmed, Dr. Muntir Al-Qasi, Dr. Makiah Al-Qasi; Apple Valley High School Class to conduct experiment, Mrs. Moore-Probability and Statistics AP teacher helped me include statistics in my results.	