



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kimberly E. Carson</b>	<b>Project Number</b> <b>J0304</b>
<b>Project Title</b> <b>Wrigley's Believe It or Not!</b>	
<b>Objectives/Goals</b> The purpose of my science project is to find out if people can take math tests faster while chewing gum. I became interested in testing this project because my teacher hands out gum during STAR tests because she says it helps us concentrate better. I also did some research online that makes me think that people will take tests faster while chewing gum. Based on this background research and the fact that my teacher hands out gum during STAR testing, I think that the people will take the test faster while they are chewing gum.	
<b>Abstract</b> <b>Methods/Materials</b> The materials used in the design and testing of this project include: Wrigley's Double-mint gum; Willing subjects; Math test sheets; Pen; Stop-watch; Computer, paper.  The steps of the procedure are: 1. Develop a simple math test (the nines multiplication table) sheet. On one side of the paper, the numbers were in order from 9x1 to 9x12. On the other side, the order was reversed. 2. Give a willing subject the math test and time them while they answer the questions on one side of the sheet. 3. Record the following information: name, time to complete test correctly, and whether they were chewing gum during the test or not. 4. After a short break, give the subject the test again. If they were chewing gum the first time, then this time they did it without gum. If they were not chewing gum the first time, then this time they were. 5. Record the data. 6. Repeat steps 2-5 with more subjects. 7. Enter the data into a spreadsheet program. 8. Analyze and graph the data.	
<b>Results</b> The results of my project indicate that chewing gum helps people concentrate better while taking a simple math test. 15 out of 23 people took a simple math test faster while they were chewing gum than when they were not chewing gum. I have proven my hypothesis (and my teacher) to be correct.	
<b>Conclusions/Discussion</b> My results indicate that chewing gum really does help people concentrate better. A majority of the people in my study completed a simple math test more quickly while chewing gum.  My research suggests that this is because the act of chewing anything produces saliva, which triggers the release of insulin. The release of insulin leads to an increased heart rate and sends glucose and oxygen to our brain. The glucose and oxygen in our brain helps improve concentration, focus, and learning. That's why I'm chewing gum while I type this report!	
<b>Summary Statement</b> Does the act of chewing gum stimulate a physical response that enables a person to concentrate and focus better, particularly when taking a math test?	
<b>Help Received</b> Mom helped me learn the spreadsheet and graphing program, and helped me format my report. My classmates helped by giving me some of their recess time to be tested. Ms. West let us chew gum during STAR testing (which gave me the idea for this project).	