



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Olivia K. Gardner	Project Number J1707
Project Title Girls Are Better Readers! (...Or Are They?)	
Abstract Objectives/Goals To statistically test whether gender accounts for differences in reading scores at Santa Fe Christian (SFC) school between grades 1 and 3. My hypothesis was that there were differences between girls and boys, and that girls attained reading fluency at a younger age than boys. Methods/Materials *Reading test scores for grades 1 through 3 at SFC (all scores were anonymous). *Microsoft Excel *10 Dice (to gain insight into probabilities) Results I compared scores for boys and girls in each grade, and then I compared the averages of each grade. In 1st grade the average reading score for girls was 8.58, but the 95% confidence interval (CI) ranged from 6.21 to 10.96. In other words, we can say with a 95% certainty that the average score for girls fell between 6.21 and 10.96. For the 1st grade boys, the average was 8.54, and the 95% CI was 6.71 to 10.36. Given that the CIs overlap, the 1st grade reading scores were not statistically significant different between boys and girls. In 2nd grade the average for the girls was 21.86, while the 95% CI was 20.05 to 23.68. The average score for the boys was 23.08, but their 95% CI was 20.95 to 25.22. While the average scores between boys and girls appear different, the CIs# overlap means that those differences are not significant. Thus, boys and girls in 2nd grade achieved reading fluency at about equal rates. In 3rd grade the average score for girls was 32.64, and the 95% CI was 30.82 to 34.47. The average for the boys was 33.03, and the 95% CI was 31.34 to 34.73. The CI overlap shows that the difference in averages is not significant. Reassuringly, the differences in reading averages between grades 1, 2, and 3 are statistically significant. This difference shows that as the students progress through the grades they achieve higher levels of reading fluency. Conclusions/Discussion I learned the basic principles of statistics as I evaluated reading scores from my school. At first glance the reading averages did appear to differ. However, following more thorough analysis, I can conclude that no significant difference exists between the boys and the girls in terms of reading averages.	
Summary Statement I used statistics to study differences in reading scores between genders and grades at my school.	
Help Received My father taught me about statistics, and Mrs. Beeman provided me with the data for my project	