



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Alisa M. Goldrich	Project Number J0312
Project Title Does Cell Phone Usage Affect Reaction Time?	
Abstract Objectives/Goals The objective of this project is to figure out if cell phone usage by a vehicle's driver affects his or her reaction time, thus impairing driver performance and compromising safety. Methods/Materials Reaction timer/car simulator. Chair (for subject) and table. Hand-held cell phone. Hands-free cell phone. 20 participants between ages of 20-50. Questions/topics to engage participants in conversation over the phone. Assistant to ask questions on cell phone. For my control, I tested each participant's reaction time with no cell phone. Then I would test their reaction time with hand-held and hands-free cell phones. Three trials for each and then I would record their times and find the average. Results All participants' reaction time was impaired by usage of hand-held and hands-free cell phones as compared to when no cell phone was being used. Reaction time took longer with hand-held than hands-free cell phones. Conclusions/Discussion Cell phone usage adds to a driver's reaction time. A person's nervous system cannot concentrate both on the road and on a conversation with full attention. This is significant in that the slightest impairment of a driver's ability can lead to accidents or even death. This conclusion is in line with my original hypothesis.	
Summary Statement This project is designed to determine if cell phone usage impairs a driver's ability and jeopardizes safety.	
Help Received My mom borrowed the reaction timer/car simulator from her clinic. My parents helped me find 20 participants between the ages of 20 and 50 years old. My mom served as an assistant to engage participants in conversation on the cell phone.	