



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

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Project Title Saccadic Eye Movement and Reading Ability	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals This experiment explores the right delivery mechanism to maximize the absorption of the information from the size of the reading media, which is the screen size. The questions that are being asked during this experiment are: Does the aspect ratio of the reading media (portrait or landscape) influence our ability to read, Is there a correlation between the aspect ratio of the reading media and the accuracy of reading, and does the Human brain and human eye favor the same reading parameters to maximize, reading speed, accuracy and ease.</p> <p>Methods/Materials # Ten subjects (8th grade students) # Five different reading screens (all the five reading sizes has the content taken from the same book. The number of words and the font shape and size in each reading screen were the same.) # Stop watch</p> <p>Results Reading time is a function of saccadic eye movement, fixation between saccades, regression time, return sweep and head movement (in case of large amplitude). If the reading size involves a lot of return sweeps, then the reading time will increase as in case of Type C. If the reading size involves a lot of head movement (up to down or left to right), then the reading time increases as in case of Type A and Type C. The experiment also suggests that the key responses, speed, preference and accuracy are well correlated. The experiment also suggests that the key factors that affect reading speed are the head movement (for large amplitude) and excessive return sweeps</p> <p>Conclusions/Discussion # Since saccadic eye movement is very critical for reading, explore the correlation between people who have issues with reading and their eye movement # Investigate people with reading times excessive of the 3sigma limits with respect to their saccadic eye movement. # Young children with reading problems may need their eye muscles and focus examined. Early correction may prevent future reading issues. # Explore optimal reading / viewing sizes for pictures and videos and combinations of pictures and videos # Experiment with Braille to determine best reading size</p>	
Summary Statement How saccadic eye movement effects reading	
Help Received Dad helped me with guidance in this project	