



CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

Name(s) Andrew Knoell	Project Number 31719
Project Title Wake-up Call: The Effect of Cell Phone Radiation on <i>Drosophila melanogaster</i> (Fruit Flies)	
Objectives/Goals The purpose of my project was to determine if cell phone radiation is harmful to living creatures. I am interested in this project because I just got my first cell phone and through my research I discovered cell phones may cause brain and tissue damage in children and adults. I cannot test exposure of cell phones radiation on humans so I will test exposure on fruit flies (<i>Drosophila melanogaster</i>). By exposing fruit fly larvae to cell phone radiation I believe I can show that the development of a fruit fly will be affected. Abstract Methods/Materials I first multiplied my fruit flies. I then conducted my experiment by exposing winged and wingless fruit flies to cell phone radiation for 2 hours per day, during their developmental stages. I measured the effects of cell phone radiation on the development of my control and radiated fruit flies in a timed climbing test by counting the number of fruit flies that cross a line on a test tube, and by observing any defects of fruit flies under a microscope. Materials included 100 test tubes, <i>Drosophila melanogaster</i> - winged and wingless, stereomicroscope, watch, 2 cell phones, anesthetizer kit, clear Petri dish with lid. Results My data from the climbing test trials showed the number of fruit flies that crossed the line in 30 seconds in each test tube. My results showed the wingless flies averaged 7.8 flies crossing the line, control wingless averaged 4.36, winged flies averaged 8.1 flies, and control winged averaged 6.52. These results showed that the radiated flies performed better in the climbing test than the control flies. Data from my microscope observations showed that the radiated winged flies were 14.81% defective, the radiated wingless were 12.82% defective, while the control winged and wingless flies were less defective, at 8.82% and 2.94%. Conclusions/Discussion I believed that exposing fruit flies to cell phone radiation could affect their development. The data I collected produced results that I did not expect. In the climbing test, the radiated flies performed better than the control flies. The control winged and wingless flies had average numbers lower than the radiated winged and wingless flies. The climbing data did not support my hypothesis. The microscope observation data only slightly supported my hypothesis. Neither of my tests and observations showed a strong effect of cell phone radiation. Therefore, I concluded my hypothesis was not correct.	
Summary Statement This project studied the effect of cell phone radiation on <i>Drosophila melanogaster</i> .	
Help Received Thank you to Dr. Theisen for her advice on how to care for fruit flies. Thank you to my mom for helping me obtain the supplies I needed.	