



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Jan M. Humphrey	Project Number S1409
Project Title Drosophila melanogaster RADIATE Results	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Having studied, for two years, mutant genes and characteristics that resulted from mutation, I have become curious about the causes of mutations. Various forms of radiation and accumulation of exposure to that radiation, have varying capability of causing genetic changes. For my third year study, it was my desire to study the effects of radiation, from a common source within most homes, to which people are frequently exposed. My study was designed to observe the effect of radiation from repeated exposure to television, on reproduction, genetics and frequency of recombination in <i>Drosophila melanogaster</i>.</p> <p>Given three linked loci, yellow body (y), a rough eye known as echinus (ec), and cut wings (ct), what is the effect of varying amounts of radiation, determined by distance from the source of radiation, on the reproduction, genetics, and the frequency of recombination in <i>Drosophila melanogaster</i>.</p> <p>Methods/Materials To test my hypothesis, crosses were made between phenotypically different <i>Drosophila</i> in front of a running television, data was recorded, calculations were made, and conclusions were stated.</p> <p>Results <i>Drosophila</i> located 6 inches from the source of radiation demonstrated 100 % fatality, 12 inches from the source of radiation demonstrated 100 % sterility, 18 inches from the source of radiation demonstrated genetic mutation, and 24 inches from the source of radiation had no observable effects.</p> <p>Conclusions/Discussion Through experimentation and observation, my data and conclusions disprove my hypothesis. Radiation from television was adequate to demonstrate observable effects on reproduction, genetics and the frequency of recombination in <i>Drosophila melanogaster</i>.</p>	
Summary Statement This project studied the effect of varying amounts of radiation, determined by distance from the source of radiation, on the reproduction and genetics of <i>Drosophila melanogaster</i> .	
Help Received	