



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Chloe D. Su	Project Number S1821
Project Title Resveratrol and Aging	
Objectives/Goals The objective of my project was to determine the effects (if any) of resveratrol, an antioxidant found in the skin of red grapes, on the longevity of fruit flies (<i>Drosophila melanogaster</i>), and to see if these effects could be applied to humans.	
Abstract	
Methods/Materials 1. Fruit flies (<i>Drosophila melanogaster</i>) # at least 200 2. Vials (at least 20) 3. <i>Drosophila</i> food medium 4. Resveratrol supplemental tablets (65 mg per tablet) 5. Labels (2 different colors to distinguish groups) 6. Distilled water 7. Graduated cylinder 8. Teaspoon 9. 10 mL Syringe (for transferring solution to vials) First I created different dilute solutions of resveratrol solution by dissolving resveratrol in water (30 mg/L, 15 mg/L, 7.5 mg/L and 3.75 mg/L). (My control was water only.) I mixed these solutions with the <i>Drosophila</i> food medium and put equal amounts of food (2 teaspoons of medium per 10 mL of resveratrol solution) in 5 different vials. I transferred 20 flies to each vial. Each day I recorded the number of living flies in each vial. Every three days I transferred the flies to new vials in order to ensure freshness and prevent the laying of eggs. There were two trial groups running at the same time, meaning that I surveyed 200 flies in total.	
Results The flies in the vials with higher concentrations (15 and 30 mg/L) of resveratrol lived longer than the flies with lower concentrations of resveratrol (3.75 and 7.5 mg/L) in comparison to the control group (water only). The lower concentrations (3.75 and 7.5 mg/L) did not seem to have any significant effect on the longevity of the fruit flies. There was an approximate maximum lifespan extension of 20% in the flies fed with the higher concentrations of resveratrol as compared to the control group.	
Conclusions/Discussion Resveratrol appears to extend the lifespan of the fruit flies, but only at higher concentrations. This seems to indicate that including resveratrol in the human diet would be beneficial, although the effective dose would still need to be determined.	
Summary Statement My project investigated resveratrol, an antioxidant found in the skin of grapes, and its possible anti-aging effects, using fruit flies.	
Help Received Dad helped in transferring flies; Brother helped make graphs on the computer	