



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Tara D. Falt	Project Number J1709
Project Title Caffeine Makes the Heart Go Boom!	
Abstract Objectives/Goals My objective was to see if exposure to different levels of caffeine would alter the heart rate of Daphnia Magna. It is also to see if the heart rate would increase, decrease, or stay the same. Methods/Materials The materials I used included the following: Daphnia magna, Daphnia magna food, culturing tank, pipettes, scale, caffeine, test tubes, small bowls, timer, and a microscope. My entire experiment can be simplified easily. All I did was expose the water fleas to different levels of caffeine then observed and recorded their heart rates under a microscope. I counted the heart rate for fifteen seconds then multiplied by four to get beats per minute. Every time I saw the heart beat, I made a dot on a piece of paper then afterwards counted the dots and multiplied by four to get the heart beat per minute. Results The averages that were a result of my project include: 299.6 with no caffeine, 306.4 with 50 milligrams of caffeine, 347.2 with 100 milligrams of caffeine, 373.6 with 200 milligrams of caffeine, and 416.4 with 250 milligrams of caffeine. These results allowed me to fulfill my objective to find out if caffeine had an effect on the heart rate of Daphnia magna and it does. Conclusions/Discussion All of my data support my hypothesis and are results of my extensive research and careful experimenting. I hypothesized that with exposure to a higher amount of caffeine the heart rate would increase and as shown in my data, I was correct. The information I pulled from this project expands the knowledge of pharmacology/toxicology. Caffeine, a drug used for pharmaceutical reasons does have an effect on heart rate as other drugs can. As a result, drugs can have a negative and or positive effect on organisms.	
Summary Statement My project is the effect caffeine has on the heart rate of Daphnia Magna.	
Help Received Mother bought supplies and helped with board; Dad bought supplies; Mr. Briner answered questions; Mrs. Baham and friend answered questions	