



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Patcharada Promprasert	Project Number J1728
Project Title Speed of Heart	
Objectives/Goals To test the effects of nicotine, alcohol , and caffeine on the heart.	
Methods/Materials Using Daphnia Magna, a water flea with a transparent carapace to be able to see the heart under a microscope. I made solutions of .5%, 1%, and 5% of all the manipulated variables. To record the data, a smart phone was used to record the effects on the D. Magna then airplayed to magnify it for accurate results.	
Results Nicotine and Caffeine sped up the heart while alcohol slowed it down.	
Conclusions/Discussion My prediction was proven true. Caffiene and Nicotine are stimulant drugs while alcohol is a depressant drug. If I had to re-do the experiment, more trials would be needed and a future project could be the effects of combined drugs, such as the alcohol and caffeine to see whether it would cancel each others' effects/ what the result would be.	
Summary Statement The effects of nicoine, caffeine, and alcohol on a heart.	
Help Received Mr.Hobbs (teacher) helped order the supplies and mother helped by holding the camera.	