



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Patcharada Promprasert	Project Number 34905
Project Title Speed of Heart	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To test the effects of nicotine, alcohol , and caffeine on the heart.</p> <p>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.</p> <p>Results Nicotine and Caffeine sped up the heart while alcohol slowed it down.</p> <p>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.</p>	
Summary Statement The effects of nicotine, caffeine, and alcohol on a heart.	
Help Received Mr.Hobbs (teacher) helped order the supplies and mother helped by holding the camera.	