



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

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| Name(s) Catherine G. McQueen | Project Number 35044 |
| Project Title What's in Your Water Bottle? | |
| Objectives/Goals The objective of my experiment was to learn if an increase in temperature affected the amount of bisphenol A released in polycarbonate plastic water bottles. Abstract Methods/Materials I had four groups of water bottles with three water bottles within each group. Each group of water bottles was subjected to different temperature water. Each temperature mimicked the interior temperature of a car at different temperatures. I subjected the water bottles to heat by placing them in a metal pot full of water that was over a burner. I had a thermometer sticking out to regulate the temperature. Then, I tested my water bottles for BPA by using a UV-Vis spectrometer. Results In the end, I found that the internal temperatures of cars are not extreme enough to release BPA in water bottles. Although I found no BPA in any of my test samples, I did find an unknown contaminant that increased in my samples with the temperature they were subjected to. Conclusions/Discussion After completing my project, I found that although there was no BPA in my samples, there was an unknown substance. Instead of focusing on BPA, which was not present at all, society should be more concerned about this contaminants and others, as they could be potentially just as harmful as BPA. Additionally, water bottle users should not be concerned with leaving their water bottles inside of their car simply because of BPA, as the temperatures are not extreme enough to leach BPA. | |
| Summary Statement My project focused on whether temperature affected the amount of BPA released in polycarbonate plastic water bottles or not. | |
| Help Received Used lab equipment at UCSB's Materials Research Lab under Amanda Strom | |