



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Lee J. McEligot	Project Number J1115
Project Title Bisphenol A: The Big Plastic Adversity	
Abstract Objectives/Goals My objective was to study how different environmental exposures affect Bisphenol A (BPA) levels in household items. Methods/Materials My materials included hard and soft plastic bottles, cans, a car, a freezer, a pot, and a Hach certified test kit. The test kit included three different types of reagents, a color wheel and comparator, a buffer solution and two test tubes. My methods were to add water in cans and bottles, and place them in three different environments for a week, then measure BPA with my test kit. The environments were heat (boiling water), freezing temperatures (freezer), and inside a car. Five trials were conducted in each environment. I used the Hach certified test kit to measure BPA (mg/L) in the cans and water bottles. Results My results were, when the cans were exposed to heat (boiling water), it leached the most BPA (mean = 0.635 mg/L), while plastic bottles had little to none (0.000-0.012 mg/L). The plastic bottles and cans exposed to the other environments (freezing and car) were between 0.000 and 0.017 mg/L. Conclusions/Discussion In conclusion, the results supported my objectives of measuring BPA levels in household items. Overall exposing cans to heat leached the highest levels of BPA. Placing number one plastic water bottles and BPA free water bottles in the refrigerator, freezer, and car is relatively safe, but cans still leach an unsafe amount of BPA.	
Summary Statement My project was about studying how different environments (heat, freezing temperatures, and inside a car) affect BPA levels in plastic bottles and cans.	
Help Received My mom, Archana McEligot helped me find and approve my test kit. Harold Rogers, a CSUF biochemist explained to me that Bisphenol A has two phenol molecules and showed me the mathematical equation to convert a phenol level to a Bisphenol A.	