



CALIFORNIA STATE SCIENCE FAIR 2015 PROJECT SUMMARY

Name(s) Chloe C. Mauceri	Project Number 35051
Project Title In Search of BPA	
Objectives/Goals My objective for this project was to determine what objects/liquids are safe and which ones are dangerous. I play volleyball, and after playing all day at the beach, my water bottles always taste odd, and I was curious to see if that taste was leaching plastic. My curiosity for receipts came shortly after, because I learned that receipts would be a possible test subject, and since I touch receipts almost everyday, I thought it would be a valuable test. The toilet paper, I was curious after hearing a rumor and I wanted to know if something no-one would expect to be dangerous actually was. My goal for this project was to be able to warn others what is and what isn't safe.	
Abstract My objective for this project was to determine what objects/liquids are safe and which ones are dangerous. I play volleyball, and after playing all day at the beach, my water bottles always taste odd, and I was curious to see if that taste was leaching plastic. My curiosity for receipts came shortly after, because I learned that receipts would be a possible test subject, and since I touch receipts almost everyday, I thought it would be a valuable test. The toilet paper, I was curious after hearing a rumor and I wanted to know if something no-one would expect to be dangerous actually was. My goal for this project was to be able to warn others what is and what isn't safe.	
Methods/Materials For my project, I used a receipt, a plastic water bottle with a recycling code 1, a plastic container with a recycling code 5, a spectrometer, a cuvette, a beaker, regular tap water, experimental vodka, and lastly, Trader Joe's toilet paper	
Results The amount of BPA is more consequential on solid objects rather than liquids stored in water bottles. After first testing the liquids in the water bottles, I found that the BPA level is non effective, and barely traceable. The solids I tested, toilet paper, and a receipt, had higher absorption levels. Although, this is not true for all liquids, just the liquids in water bottles. The vodka I tested also had traces of BPA.	
Conclusions/Discussion The water bottle I tested did not contain any traceable amount of BPA, but a very common household item did. That item was a receipt! After continuous research of why receipts are dangerous and what reacts with them when combined to become a bigger contamination. I discovered that when hand sanitizer and a receipt mix, the absorption level increases by 95 times. I was curious about what caused this reaction and found that it was the alcohol. So, I tested straight-up vodka and found traces of BPA. I also looked for BPA in recycled toilet paper after learning that recycling toilet paper was partially made out of receipt, and I wanted to know if some of the traces moved onto the toilet paper.	
Summary Statement I tested various household items to find out if any of them contained the dangerous plastic chemical BPA.	
Help Received My mentor James Rogers helped me understand the material, and also helped me gain access to the UCSB Science Lab. My mom helped me with indesign and photoshop. She taught me how to work the programs.	