



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Allison Daley; Nina Loew</b>	<b>Project Number</b> <b>J0909</b>
<b>Project Title</b> <b>eWaste Toxins: Is This Water Safe to Drink?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment is to measure the level of toxins that leak out of e-waste, and how quickly. Also this experiment will determine if our school district responsibly disposes of e-waste. By 2010 it is projected there will be 3 billion pieces of disposed e-waste in our communities, including computers, cellphones, ipods, and Blackberries.</p> <p><b>Methods/Materials</b> Three covered glass containers were each filled with eight cups of tap water. An old cell phone was placed into Dish 1, an obsolete motherboard into Dish 2, and nothing was placed into Dish 3. Over a 29-day period, the water was tested each Saturday at 11:30 AM to measure levels of Cadmium, Nickel, Lead, and Copper. Results were recorded and compared with the National Secondary Drinking Waters Standards published by the EPA. The Burlingame School District was visited to investigate the policy for responsible e-waste disposal.</p> <p><b>Results</b> The final water toxicity levels ranged form 50 - 200 ppb (parts per billion). EPA contaminate levels begin at 250 ppbs, therefore, according to the EPA this water is still safe to drink. The Burlingame School District follows a pledge to responsibly dispose of electronic waste.</p> <p><b>Conclusions/Discussion</b> We conclude that within 30 days, drinking water exposed to e-waste toxins still meets EPA standards for safe drinking water. By conducting this experiment we hope to increases the knowledge of others on the importance of responsible e-waste recycling and disposal.</p>	
<b>Summary Statement</b> Responsibly measuring and managing e-waste toxins, through disposal and recycling programs, is important to the future safety of our drinking water and environment.	
<b>Help Received</b> Mothers helped with purchasing (test kits, dishes) and gathering (cell phones, motherboard) of materials.	