



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title Mercury Levels in Fish	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to determine if the amount of mercury within a fish can be altered by various cooking techniques: poaching or barbecuing.</p> <p>Methods/Materials Tuna, Mahi-Mahi, Shark, Tuna Albacore Blender, Plastic Bags, Aqua Regia (HNO₃ & HCL), water, Leeman Labs PS200 Automated Mercury Analyzer, Leeman Labs PS200 Data System, Okidata Microliner 320 Printer, 200-mL graduated plastic cups (P-cups), Centrifuge tubes, Permanent Drying Tube, 60mL VOA Vials, Skillet, Barbeque The fish were obtained from separate grocery stores including Vons and Albertsons.</p> <p>Results Raw Shark and barbecued shark contained .8 mg/kg of mercury. Poached shark contained .73 mg/kg of mercury. Raw mahi mahi contained .17 mg/kg, barbecued contained .15 mg/kg, and poached contained .13 mg/kg. Raw tuna contained .35 mg/kg, barbecued contained .24 mg/kg, and poached contained .16 mg/kg. Raw tuna albacore contained .90 mg/kg, barbecued contained .79 mg/kg, and poached contained .71 mg/kg. Tuna albacore had the most overall mg/kg of mercury when it was raw and grilled, while shark had the most overall when it was poached. FGL Lab supplied us with a method to discover the mercury levels within our various samples of fish.</p> <p>Conclusions/Discussion As stated in our research, fish which are higher on the food chain have a higher level of mercury within them because they are feeding on other fish. Overtime, the mercury levels increase with the older the fish becomes. Unfortunately, our hypothesis was incorrect because barbecuing was not the most effective cooking technique, it was poaching. Although, with the results our objective was still obtained. The results were interesting to see because one would think shark would have the most mercury within them since all they do is feed on other fish, but in reality tuna albacore exceeded our sample of shark. This is interesting because our research mentioned that oceans bordering high polluting cities have a higher mercury amount than compared to the other oceans around the world. Tuna albacore quite possibly could have had the highest mercury amount because of this fact.</p>	
Summary Statement We are trying to discover whether or not mercury can be reduced in fish by various cooking techniques.	
Help Received David Terz, the representative of FGL Lab, took our samples of fish and put the samples through the various tests to conclude the total amounts of mercury .	