



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

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<b>Project Title</b> <b>Can I Make Lead Float?</b>	
<b>Objectives/Goals</b> I wanted to see if I could apply Archimedes Principle to something as heavy as lead.	
<b>Abstract</b> <b>Methods/Materials</b> Procedures: 1. Collect materials for experiment. I looked for lead sheets, but they were too expensive and transportation was difficult. 2. Do research on Archimedes Principle of Buoyancy and Lead. 3. Calculate the amount of water the lead needs to displace. (For details see Calculations.) 4. Create the Lead Boat: a. I tried to form and pour the lead into a shell, but it would puddle up unsuccessful. b. Shaped into a rectangular container, waited for it to cool and drilled/carved out insides. I could not get sides thin enough, unsuccessful. c. I tried pouring it at several angles. So, it would thin or run out, unsuccessful. d. I tried pouring it into multiple containers including: cast iron, tin, spun aluminum, pressed aluminum, Teflon and steel, unsuccessful. e. Lastly, I tried melting the lead and let it drip from four or five inches above. I let it drip onto aluminum foil wrapped around an upside down eight-inch pie pan. I used aluminum foil because it dissipates the heat easily. Also, dropping the lead from four or five inches up helped the lead to not puddle-up. It made the lead thinner by the time it hit the foil. This was successful. 5. Measure the weight of the bowl. Apply to calculations and check. 6. Then, test to see if it floats. Materials: 1 cubic inch of lead Water 5 by 9 by 3 inch pan Mapp Torch Aluminum foil Screw Driver Goggles and mask 8 inch pie pan. Large bowl Scale measures in Ounces	
<b>Results</b> Results:I can make lead float. The easiest way to make lead float is to melt the lead and let it drip over the aluminum foil. Let it drip from 4 to 5 inches up. This gives the lead time to thin. The aluminum helps to dissipate the lead. Then, shape into a boat and see it float. This, seems to be the best and easiest way to make lead float. My other attempts were unsuccessful.	
<b>Conclusions/Discussion</b> Conclusion:My hypothesis was correct that I can make lead float. I can make lead float because of Archimedes Principle of Buoyancy. With Archimedes Principle I can make anything float. The Lead boat just had to displace enough water to keep it up. This means it had to displace or push away approximately 15 cubic inches of water, according to my calculations.	
<b>Summary Statement</b> My project is mainly about, applying Archimedes Principle of Buoyancy to lead.	
<b>Help Received</b> I recieved help from my father, He helped me melt and shape the lead. This was because of the dangerous materials we had to deal with.	