



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Stephanie Y. Chang</b>	<b>Project Number</b> <b>J0608</b>
<b>Project Title</b> <b>Activated Charcoal: The Environmental Savior</b>	
<b>Objectives/Goals</b> My project was to determine if granular activated charcoal is more effective in removing organic pollutants than charcoal. I believe that granular activated charcoal that has tremendous surface area will be more effective in removing organic pollutants.	
<b>Abstract</b> I measured one gram of granular activated charcoal and put it into its set of plastic containers. I did the same for the charcoal. To prepare four different food coloring solutions in four different glass jars, I added 3 drops of food coloring into 200ml of water. Then I measured 10 ml of each individual food coloring and put it into its individual set of plastic capped containers. Each individual set included three plastic containers: The first set was the control group, the second set contained the activated charcoal experimental sample, and the third set contained the charcoal experimental sample. I let the plastic containers settle for a period of time (about a week), and I observed and recorded the results. Afterwards, I prepared a set of standard solution with different dilutions. I compared the transparency of the experimental samples with the sets of standard solution. The independent variable would be the type of charcoal, and the dependent variable would be the transparency of the food coloring.	
<b>Methods/Materials</b> I measured one gram of granular activated charcoal and put it into its set of plastic containers. I did the same for the charcoal. To prepare four different food coloring solutions in four different glass jars, I added 3 drops of food coloring into 200ml of water. Then I measured 10 ml of each individual food coloring and put it into its individual set of plastic capped containers. Each individual set included three plastic containers: The first set was the control group, the second set contained the activated charcoal experimental sample, and the third set contained the charcoal experimental sample. I let the plastic containers settle for a period of time (about a week), and I observed and recorded the results. Afterwards, I prepared a set of standard solution with different dilutions. I compared the transparency of the experimental samples with the sets of standard solution. The independent variable would be the type of charcoal, and the dependent variable would be the transparency of the food coloring.	
<b>Results</b> The food coloring in the set of plastic containers that contained granular activated charcoal had become completely transparent, while the food coloring in the set of plastic containers that contained charcoal had only been partially removed.	
<b>Conclusions/Discussion</b> My conclusion is that activated charcoal is more effective in removing organic pollutants than charcoal; therefore, I had proven that my hypothesis was correct.	
<b>Summary Statement</b> Throughout my experiment, I have determined that activated charcoal is more effective in removing organic pollutants than charcoal.	
<b>Help Received</b> My parents drove me to places to get my supplies. Ms. Johnson double checked my school science fair packet. Ms. Ligeti lent me the balance for my science fair project.	