



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Lauren I. Grazier</b>	<b>Project Number</b> <b>J1806</b>
<b>Project Title</b> <b>Is There a Better Place for Used Plastic? Testing the Strength of Concrete When Various Amounts of Plastic Are Added</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The goal of my science project is to find an alternative use for plastics number 4-7. I want these plastics to be recyclable so we can discover more resources and so that our landfills don't over flow with trash. We can just keep reusing these plastics just like we already do with plastics 1-3. <b>Methods/Materials</b> What I did first for my project was build all the forms. Then I had to cut all different types of plastic 4-7 into confetti-shaped pieces. After that I poured the concrete and plastic in the forms and let them dry for 5 1/2 days. Then I put them in a kiln for 2 days. To test the bricks, I layed one on a fulcrum and put 90lbs on one side and added weight to the other until it broke in two. Then I did the same thing with the other bricks. <b>Results</b> From doing my project I found out that plastic number six is the strongest when added to concrete. Plastics four and five came very close. Seven was the weakest plastic/concrete combination of all. None of the tests got a better test than the control. <b>Conclusions/Discussion</b> The plastic and the concrete bonded together except in plastic number 7 which was weak. In conclusion, since adding plastic to concrete had little or no effect on its strength in most cases this could become an alternative use for plastics number 4-6, which would in turn make them a renewable resource.	
<b>Summary Statement</b> In my project I tried to find an alternative use for plastics that are difficult to recycle, so I added them to concrete.	
<b>Help Received</b> Mom helped test concrete; dad helped build forms; Art teacher loaned kiln; recycling coordinator took me on landfill tour;	