



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Annalise Smith</b>	<b>Project Number</b> <b>S1722</b>
<b>Project Title</b> <b>The Hair Dye You Choose....</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My objective was to learn if; Permanent, Demi-permanent, or natural(Henna)hair dye has a more damaging effect on the strength and stretch of hair. <b>Methods/Materials</b> I used four identical samples of hair. I left sample one for the control,sample two dyed with Permanent dye, sample three with Demi-Permanent dye and sample four with Henna hair dye. I then tested five strands of each sample by tying one end of the strand around a nail situated at the top of a board which had a ruler down the side. The other end of the hair I tied to a small basket. I marked where the basket's edge came to on the ruler and measured its descent as the hair stretched. To make the hair stretch I placed pennies into the basket. When the hair broke I counted all the Pennies in the basket to determine how much weight the strand could hold. <b>Results</b> The Henna sample held 80% of the number of pennies that the control sample held, the Demi-Permanent sample held 87% and the Permanent sample only held 60%. The Henna stretched 71% of what the control stretched,the Demi-Permanent stretched 69%, and the Permanent stretched only 50%. <b>Conclusions/Discussion</b> My conclusion is that Permanent hair dye was the most damaging for the strength and stretch of the hair. Demi-Permanent was more damaging than Henna for stretch but for strength Henna was more damaging.	
<b>Summary Statement</b> My project is about determining if Natural (Henna), Demi-Permanent or permanent dye is more damaging to hair.	
<b>Help Received</b> My hair dresser,Tenisha helped me get materials, My mother helped edit my writing, Dad helped with my board.	