



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Annalise Smith	Project Number 31690
Project Title The Hair Dye You Choose....	
Objectives/Goals 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. Abstract Methods/Materials 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. Results 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%. Conclusions/Discussion 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.	
Summary Statement My project is about determining if Natural (Henna), Demi-Permanent or permanent dye is more damaging to hair.	
Help Received My hair dresser,Tenisha helped me get materials, My mother helped edit my writing, Dad helped with my board.	