



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Haesue Jo</b>	<b>Project Number</b> <b>S1411</b>
<b>Project Title</b> <b>Because You're Worth It?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of this experiment was to show that hair dye is damaging. The experiment was performed in order to demonstrate the weakening powers of dying one's hair. <b>Methods/Materials</b> The procedures which were followed include collecting hair samples, dying the hair, and measuring the width and strength of the hair samples. Three types of hair were taken and dyed three times using the same hair dye. Samples of hair after each hair dying session were kept as controls. Using a special microscope connected to a computer, the hairs' widths were measured. To test the strength of the hair, the hair was taped to two ring stands and a paperclip was hung by the hair with the point bending out. Washers of various weights were added to the paperclip until the hair snapped and however many weights the hair could hold showed how strong it was. The hair physically changed width-wise by getting thinner. <b>Results</b> My hypothesis that the thinnest hair would be most affected was incorrect. All the hair did get thinner and weaker. The thickest of the hair samples was most affected. <b>Conclusions/Discussion</b> In conclusion, the hair did get weaker by getting both thinner and weaker in strength. The thicker your hair is, the more it will be affected. Your hair is most damaged after the second dye because the first dye is just a one time thing and by the third time, the hair is so fried up, there is not really much more damage to be done.	
<b>Summary Statement</b> My project is about the effects of hair dye on different types of hair and the amount of times the hair is dyed.	
<b>Help Received</b> Sister drove me to Walgreens to buy glue, gloves, hair dye, and other supplies; Teacher provided with washers (weights) and ringstands; Mother drove me to hair salon to get some hair; Great Clips gave me some hair; Used computer/microscope at Oak Grove High School	