



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Sandra Velasquez	Project Number S1429
Project Title Round 1: Natural Hair vs. Dyed vs. Bleached. Round 2: Curly Hair vs. Wavy vs. Straight. Who Will Win?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment was to see if dyeing and bleaching hair affects the strength of hair. I also performed this experiment to conclude if different hair structures affect the hairs' strength. The reason I wanted to conduct my first experiment was because many people dye and bleach their hair without knowing the consequences it can cause. The reason I wanted to conduct my second experiment was because I wanted to know if the hair is natural and unharmed by hair coloring products, does structure really matter.</p> <p>Methods/Materials Materials: 30 hair samples 10natural/10dyed/10bleached; 30 hair samples 10curly/10wavy/10straight; 25 number 2 pencils; Scale(grams); 60 ziplock bags; Tape.</p> <p>Methods: 1. Take each Pencil and using a nail and hammer make a small hole just under the metal band. 2. Collect ten natural 10ins. or longer hair samples from ten different people and do the same for the other different hair types. 3. Place each hair strand in a baggie and label the bag with necessary information. 4. Take out all hair strands and cut them all to be 10in. long. 5. Now take one hair strand cut a ½ in. piece of tape and tape the end of the hair to the edge of a smooth surface. 6. Begin to thread the pencils through the hair keeping the hair steady, until the hair rips. 7. Take the number of pencils the hair supported before it collapsed and weigh them on the scale. 8. Take the weight and record it on the hair strand#s corresponding baggie. 9. The weight the strand of hair held for example 100 grams is its strength, or capacity. 10. Now do the same for all other hair strands.</p> <p>Results I found out that Natural hair was much stronger than dyed and bleached hair. It resulted in being 16% stronger than dyed hair and 27% stronger than bleached hair. For my second experiment I found that there was barely any difference between the strengths. Straight hair was 0.5% stronger than curly hair and it was 1.5% stronger than wavy hair.</p> <p>Conclusions/Discussion The reason I got my results for my first experiment Natural Hair vs. Dyed vs. Bleached was because the acids and harmful chemical in coloring products had damaged the protein structure of the hair making it weaker and brittle. The reason I got my results for my second experiment was because all hair strands were natural. Another reason they all came out to about the same was because when I tested them I stretched the hair in return undoing the structure.</p>	
Summary Statement The purpose of my experiment was to test if dyeing and bleaching hair weakens its strength and to see if different hair structures that were uncolored differed in strength.	
Help Received	