CWSF 2017 - Regina, Saskatchewan

Jay Botham

The Effect of Hair Dye on Hair Strength

Challenge: Health
Category: Junior
Region: Greater Vancouver
City: Vancouver, BC
School: Prince of Wales Secondary

Abstract: In this experiment, I compared the tensile strength of un-dyed hair to hair dyed with different dyes, including ammonia-based and ammonia-free dyes. I found that ammonia-free dyes caused an average of a 17.4% reduction in tensile strength and ammonia-based dyes caused an average of 35.7% reduction in tensile strength, supporting my hypothesis that ammonia-based dyes cause significantly more weakening of hair than ammonia-free dyes.

Biography
Jay Botham is 13 years old and is in grade 8 at Prince of Wales Mini School in Vancouver, BC. Outside of school, Jay is very active in activities including musical theatre, dance, guitar and singing. Jay also enjoys camping, traveling and hanging out with friends. Jay initially did this project to satisfy the requirements of her school science program. She did a significant amount of background research on hair dyes and the structure of hair. From her research, she designed her own project to test the tensile strength of hair dyed with different types of dye. Jay is very excited to be traveling to Regina for CWSF.

Awards	Value
Excellence Award - Junior - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - $2000 Entrance Scholarship Sponsor: Western University	$2 000
Total	$2 000

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