



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Nadya B. Al-Sharif	Project Number J0501
Project Title Color Match: Candy Chromatography	
Abstract Objectives/Goals To determine if the food dyes used in making similar colored chocolate candies made in two different countries are the same. Methods/Materials I used paper chromatography to find the retention factors of the food dyes used in green, blue and red M&Ms (made in the USA) and green, blue and red Smarties (made in the UK). Using distilled water, I extracted the dye from 20 pieces of each color of the M&Ms. I prepared and tested 5 paper chromatography strips for each color. Then I repeated the same procedure for the Smarties. Out of curiosity, I tested green, blue and red liquid food dyes to see if I can identify any of the dyes used in the candies by comparing the retention factors. Results My results showed that the retention factors for the food dyes used in M&Ms and Smarties were not the same. Conclusions/Discussion My conclusion is that the food dyes used in making M&Ms and Smarties are different. From my research, I found out that the food dyes used in M&Ms are artificial, while the food dyes used in Smarties are natural.	
Summary Statement The use of paper chromatography to compare the food dyes used in similar colored chocolate candies made in different countries, the USA and the UK.	
Help Received Mother helped with designing the display board; Father helped by showing me how to measure the retention factors.	