



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> Shannon R. Woodside	<b>Project Number</b>  33453
<b>Project Title</b> Sugar Affects Homemade Marshmallows	
<b>Objectives/Goals</b> In my hypothesis, I believe if I use different types of sugar in a marshmallow recipe then the melting, cutting and density tests will have different results because of the sugar composition. The types of sugars were C&H Granulated sugar, C&H Powdered sugar, C&H Light Brown sugar, C&H Washed Raw sugar, C&H Baker's sugar, C&H Superfine sugar, and Sunny Select Sucrose sugar. <b>Abstract</b> <b>Methods/Materials</b> My marshmallow recipe contained 3 steps: "blooming" the gelatin, making the sugar syrup, and combining the two mixtures together. Then the mixture was mixed for ten minutes. It was poured in a container and was untouched for four hours. For the melting test, an 8 gram marshmallow was put in two cups of boiling water(100 C). For the cutting test, an 1 inch marshmallow was cut at the edge of a cheese slicer with quarters. For the density test, a square marshmallow was weighed and volume measured. <b>Results</b> My three tests gave different results 1. The melting test showed that C&H Powdered sugar took 1.30 minutes to melt while C&H Superfine sugar took almost twice the amount at 3.00 minutes. 2. The cutting test showed that C&H Granulated sugar took the least amount of quarters to cut at 3 and C&H Powdered sugar took the most at 30. 3. The density test showed that C&H Granulated sugar was the most dense at 0.48 grams per cubic centimeters and C&H Baker's sugar was the least dense at 0.18 grams per cubic centimeters. <b>Conclusions/Discussion</b> After testing each of the seven sugars three times (21 batches), I realized that the composition of each sugar effected the melting, cutting, and density of the marshmallow.	
<b>Summary Statement</b> The purpose of my project was to find how different sugars effected my marshmallow recipe.	
<b>Help Received</b> Parents helped proofread my writing, helped with my tests, and display board.	