



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> Meredith V. Monke	<b>Project Number</b> <b>J1317</b>
<b>Project Title</b> Free Weights Does Bicep Size Indicate Endurance?	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to learn if bicep size affected an adolescent girl's endurance by using a free weight. I believed that the larger the bicep size, the more repetitions would be performed.</p> <p><b>Methods/Materials</b> A five-pound free weight, measuring tape, information sheet, and release forms were the materials I used in my project. Twenty-five female adolescents between the ages of 9 and 14 were tested. Their bicep size was measured using a measuring tape, and then I counted how many times each participant could lift the five-pound free weight.</p> <p><b>Results</b> Participants with a bicep size from 19 to 25 centimeters all did between 15 and 60 repetitions. When participants had smaller arms, they didn't do very many repetitions, but after their biceps got bigger, the number of repetitions performed became unpredictable. The number of repetitions performed became more variable after bicep sizes exceeded 26 centimeters.</p> <p><b>Conclusions/Discussion</b> In adolescent girls, bicep sizes ranging in 19 to 25 centimeters may indicate endurance.</p>	
<b>Summary Statement</b> My project was to determine if bicep size indicated a person's endurance.	
<b>Help Received</b> Teacher helped with writing; parents helped with testing; people who were tested; principal provided materials	