



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Isabella S. Escalante	Project Number J1108
Project Title Get a Grip	
Abstract Objectives/Goals My objective is to show that girls and boys at age eleven and twelve will have the same physical hand strength. I base this on data from government growth charts, hormonal development in children this age, and similar physical activity levels in this age group. Methods/Materials Materials: Information forms and notebook, digital scale, measuring stick, pencil, and dynamometer. Methods: Twenty-five random girls and twenty-five random boys between the ages of 11 and 12 years, 9 months were measured, weighed, and had their age recorded. Using a dynamometer, three grip strength test were given. The highest score was used for results. The subjects assigned were assigned numbers 1 to 25 based on their strength, with 1 being the lowest and 25 being the highest. The approved Jamar Dynamometer testing procedure was used. Testing was done at setting number 2. Results pounds. The boys average I observed that the twenty-five eleven and twelve year old girls in my study group appeared physically more mature than the twenty-five eleven and twelve year old boys in my study group. The average age of the girls was eleven years eight months. The average age of the boys was twelve years. The girls were slightly taller at sixty-one inches and boy#s height was 59.47 inches. The girls were significantly heavier, averaging 106.56 pounds and the boys average weight was 91.06 pounds. The girls grip strength was slightly greater averaging 27.56 grip strength was 26.24. Conclusions/Discussion I was able to show that boys and girls age eleven and twelve in my control group had approximately the same hand grip strength. The girls seemed to be showing the effects of estrogen, but the boys testosterone has not reached high enough levels to give them more muscle strength yet.	
Summary Statement Based on hormone development, boy and girls ages 11 and 12 have the same strength base on the hand grip test.	
Help Received Grandmother helped with appropriate Web sites and typing bibliography. Parents bought supplies and dynamometer.	