



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Bridget E. Levy	Project Number J2124
Project Title Protect Your Melon!	
Abstract Objectives/Goals Question: This project asked, "Which type of helmet protects your head the most during a crash, a bicycle helmet or a skateboard helmet?" Hypothesis: The author hypothesized that that the watermelon(s) with no helmet will take on the most damage, then the watermelon(s) with the bicycle helmet, and that the watermelon(s) using the skateboard helmet will be protected from damage the most because of the helmet's thicker plastic, denser foam, and multi-crash resistant design.	
Methods/Materials Procedure: The experiment was conducted using a pulley system that placed a watermelon in a helmet that was dropped down onto concrete. This test was conducted with three variables: no helmet, bicycle helmet, and skateboard helmet. Each watermelon was dropped and had its damage recorded until it was unable to be further used, then the author moved onto the next test with a fresh watermelon. Experimental Design: Organization of this experiment was a primary goal. Manipulated Variable- The manipulated variable in this project is the helmet type. Controlled Variable- The controlled variable in this project is the test(s) without a helmet (just watermelon); this test is conducted to have proof and comparison of what should happen without manipulation. Responding Variable- In this test the author measured the amount of damage afflicted on the watermelon(s) after being dropped, such as bruises, scratches, or cracks. Trials- There were 21 tests in total in this project. Constant- The constants in this experiment are: # Length, height, and force of the watermelon drop. # Watermelon size and weight (in average). # Area in which experiment is taken (same concrete). # Temperature and climate (Tests will be taken same day)	
Results Results: Results showed that the watermelons without helmets took on the most damage. The watermelon with the bicycle helmet took on the second amount of damage. The watermelons using the skateboard helmet took on the least amount of damage for the longest amount of time.	
Conclusions/Discussion Conclusion: The author concluded that skateboard helmets are better at protecting watermelons (your	
Summary Statement This experiment tested the relative effectiveness of bicycle helmets in comparison to skateboard helmets.	
Help Received Father bought watermelons and helped locate some supplies. Mother (occasionally) assisted in the actual dropping of the helmet when the author was video-taping for future reference.	