



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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Project Title A Comparison of Swim Times with Speedo Fastskin and Standard Lycra Swimsuits	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The primary objectives of this study are to determine if Fastskin suits have superior water resistance properties compared to standard Lycra, and to determine the degree of difference (if any) between the two swimsuit materials. Improved knowledge of the degree of faster swim times will permit more informed purchasing decisions between Fastskin and Lycra swim suits.</p> <p>Methods/Materials Procedures: 1. Randomly assign swimmers into one of two equally sized groups. Swimmers assigned to Sequence 1 will test the Fastskin swimsuit in the first period followed by the Lycra swimsuit in the second period. Swimmers assigned to Sequence 2 will test the swimsuits in reverse order (i.e., Lycra in the first period followed by Fastskin in the second period). 2. Measure body weight and height of each swimmer. Calculate body mass index (BMI) of each subject as kg/m². 3. For Period 1, record the 50-meter freestyle swim time of each swimmer wearing swimsuit assigned in step 1. 4. For Period 1, swimmer will repeat step 3 three times. The swim time for each test will be recorded on a datasheet. Note: The swimmer will rest for approximately 5 minutes between tests to ensure recovery. 5. Upon completion of Period 1, swimmer will switch suits and rest for 15 minutes before start of Period 2. 6. For Period 2, repeat steps 3 and 4.</p> <p>Results The mean swim time for the Fastskin swimsuit was statistically significantly faster compared to Lycra (p=0.01). For a 50-meter freestyle event, the Fastskin suit decreased the time by a mean of 1.1 seconds (95% confidence interval 0.6 to 1.6 seconds). The faster swim times can be attributed to its unique water repellant coating properties that decrease water absorption and remains lightweight when wet.</p> <p>Conclusions/Discussion Swimmers who learn about the outcome of this study will be able to know how a suit can affect their swim times, and which materials will be the most beneficial to them while competing. The next step in my research is to test the swimsuit materials on a larger test group to confirm the study's findings and to see if the results vary for different swim strokes and event distances.</p>	
Summary Statement The goal of my project is to determine if swim times are faster when wearing a swimsuit made of Fastskin material compared to standard lycra material.	
Help Received My father helped me set up the study and with the data analysis.	