



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

<p>Your Name (List all student names if multiple authors.) Daniel C. Klear</p>	<p>Science Fair Use Only</p>
<p>Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) The Effect of Sail Shape on Sailing Efficiency</p>	<p>J0918</p>
<p>Preferred Category (See page 5 for descriptions.) 9 - Fluid Mechanics/ Aerodynamics/ Thermophysics</p>	<p>Division J Junior (6-8) J Senior (9-12)</p>
<p>Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.</p> <p>I have always wondered why sailboats have a triangular sail, instead of another shape. To solve this I created four different shaped sails, a normal triangular sail, a tall and skinny triangular sail, a rectangular sail, and a lateral mount rectangular sail. Every sail had the same amount of surface area.</p> <p>I created four string scales and tied them to four different places on the boat, front, back, left and right. I had a fan blow the same speed in 9 different places around the tub that the boat was in. I read what each scale said and put the readings on a graph.</p> <p>I found that the lateral mount rectangular sail did significantly better than the others.</p>	
<p>Summary Statement (In one sentence, state what your project is about.) I did my project to find out what shape of sail creates the most force under a constant wind speed.</p>	
<p>Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Dad helped with construction.</p>	