



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Ian A. Canby	Project Number 34172
Project Title Unexpected Friction of a Hovercraft	
Abstract Objectives/Goals My objective was to see which surfaces affected the friction of the hovercraft the most and how airflow could affect my results. Methods/Materials I built my hovercraft with plywood, tarp and a jigsaw. I powered it with a leaf blower and measured the friction on four different surfaces on a ramp. I converted the inches it took to elevate the ramp into the co-efficient of static friction because it touched the surfaces, which were grass, wood and two different types of carpet. Results Grass had the most friction because it was jagged and air moved over it unevenly. Both carpets had tiny fibers sticking up. The thinner carpet was uneven and the thicker carpet was dense and smoother. The friction on the thinner carpet was higher than on the smoother carpet, but less than the grass. The wood had the least amount of friction because it was flat and sanded smooth, so air was able to move more evenly over it. Conclusions/Discussion My hypothesis, that the grass would have the most friction, was correct. My experiment helped me see how the movement of air over different surfaces could make a hovercraft more or less efficient, which is important because hovercraft are often used for uses such as transporting people and equipment over different types of terrain that are relatively flat.	
Summary Statement I built a hovercraft and tested the friction and coefficient of static friction by elevating it on a ramp and using different surfaces so I could see which surfaces are the most difficult for a hovercraft to operate on efficiently.	
Help Received Friend helped me use a jigsaw.	