



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

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<b>Project Title</b> Traveling on Thin Air	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this project was to determine if the roughness of a surface affects the distance traveled by my model hovercraft. I believe that the model hovercraft will work better on rough surfaces, because the rough parts of the surface will act as barriers and ensure that the air pressured out will not escape as fast.</p> <p><b>Methods/Materials</b> I constructed a model hovercraft with a pushpin, sports bottle cap, balloon, CD disk, and foam tape. I tested with this and ran it down a ramp onto the four surfaces with different roughness. The model hovercraft traveled until the air ran out of the balloon. Then I measured the distance in inches.</p> <p><b>Results</b> The smooth surfaces traveled farthest, and the rough surfaces traveled the least.</p> <p><b>Conclusions/Discussion</b> The smoothness of a surface affected how far my model hovercraft would go. The reason was, on the smooth surfaces, a thinner layer of air was needed. On the rough surfaces, a thicker layer of air was needed because the gaps in the surfaces. Rough surfaces would run out of air faster, therefore, traveling less distance than the smooth surface while using the same amount of air.</p>	
<b>Summary Statement</b> Traveling on Thin Air is a project that uses a simple built model hovercraft to test the friction of surfaces with different roughnesses.	
<b>Help Received</b> Dad helped supply the wood and boards;Participant of the SCSD Science Fair Mentoring Program	