



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Kyle D. Dangerfield	Project Number J0209
Project Title Speedy Substance: A Study of the Effectiveness of Various Lubricants on a Skateboard Bearing	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to see which lubricant causes the longest rotation time on a skateboard ball bearing. I thought that the Red Devil skateboard lubricant would produce the longest rotation of the wheel and bearing because it is advertised as "wickedly fast bearing oil."</p> <p>Methods/Materials A skateboard truck was mounted on a wood base. Lubricant was applied to the bearing, the bearing was then inserted in to the wheel and mounted on the truck. Next I applied a power drill to the wheel until it reached top speed then removed the drill and timed how long the wheel rotated. The bearing was cleaned and the process was repeated a total of three times for each lubricant and the dry control. Bearing weight was recorded to ensure all the old lubricant was removed from the bearing. The room temperature was kept constant.</p> <p>Results The dry control resulted in the longest rotation time. Water, WD 40, silicon spray, Red Devil bearing oil, lubricator with Teflon, 2 cycle oil, and Powdered Graphite all reduced rotation time compared to the dry control. Percent slowed down compared to control was calculated. Powdered Graphite reduced rotation time the most, 95.7%.</p> <p>Conclusions/Discussion My conclusion is that a skateboard bearing without weight rotates longest when it is dry. Lubricants reduce rotation time.</p>	
Summary Statement I evaluated the effectiveness of various lubricants on the rotation time of a skateboard bearing.	
Help Received Dad helped run power drill, Mom helped put together poster display.	