



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Ernesto Ochoa; Edgar Reyes	Project Number J1132
Project Title Viscosity of Oil	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of our project is to determine which oil brand has the highest viscosity.</p> <p>Methods/Materials We used three different brands of motor oil of different grades for testing which included: Castrol 20w-50, Castrol 10w-40, Pennzoil 20w-50, Pennzoil 10w-40, Valvoline 20w-50, Valvoline 10w-40, and Castrol Syntec Blend 20w/50; pipettes, test tubes, test tube racks, beakers, thermometers, ring stands, and a Bunsen Burner; wood and aluminum stripping to construct our testing ramp; and a stop clock.</p> <p>Results After testing our oils for their viscosity, we learned that the Castrol 20w-50 had the highest viscosity. This oil also had the highest viscosity after we heated it to 90 centigrade. We will have more and possibly different results for the State Science Fair since we plan to do more testing and possibly modify our testing ramp.</p> <p>Conclusions/Discussion Our conclusion is that the Castrol 20w-50 is a better lubricant than the other oils. What we mean by it being a better lubricant is that it does not have the tendency to run; in other words, its molecules tend to stick together and resist flow. It is extremely important that as a consumer, a person knows which oil brand is best for lubricating their car engines at different times of the year, example winter versus summer.</p>	
Summary Statement Our science project examines the viscosity of oil to see which is a better lubricant in different conditions.	
Help Received Mr. Gutierrez helped construct our 1st testing ramp, Mr. Martinez helped us with our testing procedure, Mr. Gutierrez, our computer teacher, help us find research material, Mr. Reyes, my partner's father helped us improve the design of our 2nd testing ramp, and our parents helped us by spending time with us at the	