



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Ramine Ravanbakhsh	Project Number J1531
Project Title The Viscosity of Motor Oil	
Abstract Objectives/Goals The viscosity of motor oil is supposed to stay the same no matter how hot the temperature gets, but could the viscosity of motor oil change at different temperatures? My goal was to disprove the theory that the viscosity of motor oil could not change. Methods/Materials First I gathered all of my materials. Then I got the size 5w-30 motor oil. I put 900 mL of that type of motor oil in a clear plastic container. Then I dropped a ball, about 1-inch in diameter, in the container. I timed how long it took the ball to reach the bottom of the container to measure the viscosity of the motor oils. I took the ball out and warmed up the oil 40 degrees F. If the viscosity did not change, I warmed it up 20 degrees higher. Then I did the same thing with the 5w-30 motor oil except I did it using the 10w-40 motor oil and the 20w-50 motor oil. I followed the same procedure for all three types of motor oil under different temperatures. Results The results showed that the viscosity of the motor oil began to change at 90 degrees F, and as the temperature got higher, the ball that I dropped in the motor oil sank more quickly to the bottom of the container. The results supported the conclusion. Conclusions/Discussion After I conducted my experiment, the data supported that my hypothesis was correct. As the oil was heated to higher temperatures, each type of motor oil became thinner and thinner, making it quicker for the ball to fall through and hit the bottom of the plastic container.	
Summary Statement The point of my project is to disprove the theory that the viscosity of motor oil cannot change.	
Help Received My father supervised my experiments; my mother showed me how to mat the paper on my board; my sisters gave me tips on the format of my board and how to make graphs on the computer.	