



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Ryan D. Montag	Project Number J0216
Project Title How Does Tire Pressure Affect Gas Mileage?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The overall purpose of my project was to determine at what tire pressure optimal fuel efficiency is achieved. I believed that a tire at 32 psi would be able to roll further than an under inflated tire could from the same ramp.</p> <p>Methods/Materials A ten meter strip of sidewalk was acquired and measured, and then a thirty centimeter bicycle ramp was secured at one end of the sidewalk. Two identical large scale hobby tires were then pumped with air; one with 32 psi, and one with 15 psi. Then each tire was rolled across the sidewalk from the ramp four times, and distances were recorded for each trial.</p> <p>Results The 32 psi tire consistently rolled further than the 15 psi tire was able to. Even the longest distance the under inflated tire traveled was shorter than the least successful run of the properly inflated tire. On average, the 32 psi tire traveled 8.4 meters, whereas the 15 psi tire was only able to cover 7.06 meters. These results show that for every pound per square inch of pressure your tire loses, your car will lose about 2% fuel efficiency.</p> <p>Conclusions/Discussion After this experiment, I have come to the conclusion that keeping your tires well inflated is very important to saving money, gasoline, and the environment. By keeping your tires properly inflated, you can avoid losing up to as much as 12% fuel efficiency.</p>	
Summary Statement How does the air pressure of a tire affect it's fuel efficiency?	
Help Received	