



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> Courtney Nash; Tyrone Thames	<b>Project Number</b> <b>J0225</b>
<b>Project Title</b> <b>Maglev: Magnetic Levitation</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of this science experiment is to demonstrate levitation by magnetic repulsion and the effectiveness of the Maglev Train in reducing friction while in motion.</p> <p><b>Methods/Materials</b> A simple model of the Maglev Train was created along with a 36-inch long track. The train was tested under various inclination angles, while velocity and acceleration were calculated using the time recorded and the distance.</p> <p><b>Results</b> Magnetic Repulsion caused the train to glide smoothly down the track. The inclination angle was directly proportional to the acceleration of the model. The non-magnetically levitated model did not move until the track was inclined at 45 degrees.</p> <p><b>Conclusions/Discussion</b> The results supported the hypothesis, the levitated model was directly affected by the angle of inclination, doubling for every 2.5 degrees the model was raised, while the other did not begin to move until 45 degrees.</p>	
<b>Summary Statement</b> This project is about the demonstration of the effectiveness of magnetic levitation in reducing friction and the amount of energy needed to produce motion.	
<b>Help Received</b> Dad helped to cut the board and glass; brother helped hold the board while glue was drying; mom bought magnets to use for project	