



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Zak H. Cook</b>	<b>Project Number</b> <b>J0709</b>
<b>Project Title</b> <b>Can Magnets Make a Roller Coaster Faster?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> I hypothesized that the car with magnets would go further than the car without magnets. <b>Methods/Materials</b> A wooden car and track were made. A bar magnet was attached to each side of the car. Four magnetic gates were placed in the track in position A, B, C and D. Each magnetic gate is about 4 inches from the next one. The angle of the gates to the car was 30 degrees. The car was launched using a rubberband slingshot pulled back to 3 inches each time. The number and position of the magnetic gates were changed and tested at least 30 times to see how it affected the car distance traveled. <b>Results</b> The magnets in the last gate (D position), located 11.75 inches from the start, propelled the car the furthest traveling on average 41.37 inches compared to 36.45 inches when no magnets were used. <b>Conclusions/Discussion</b> Magnets can accelerate the roller coaster car to go further than the car without magnets. The number of gates and the position affects the distance the car traveled. Having four magnetic gates slowed the car but it was still faster than having no magnets.	
<b>Summary Statement</b> Determine if magnets can accelerate a roller coaster and what positions and angles are the best to do this.	
<b>Help Received</b> My dad cut the wood and helped me to measure the distance traveled	