



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Courtney J. Mazzei	Project Number 22117
Project Title What Is the Source to Complete the Force? A Study of Centripetal Force	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to find out why an object, such as a roller coaster or Hot Wheels car, is able to travel upside down around a loop without falling off of the track. My hypothesis is that the height of the track is more important than the weight of the car in gaining enough speed for the car to successfully travel around the loop.</p> <p>Methods/Materials One Hot Wheels car was filled with varying amounts of fishing weights of the same size and sent down track to travel around a loop. Speed was changed by placing the initial starting point of the track at different heights. The weight of the car was changed several different times by adding fishing weights.</p> <p>Results The car traveled around the loop more often with a high track starting point, rather than with more weight and a lower starting point.</p> <p>Conclusions/Discussion The weight of the vehicle does not matter as much as the height of the starting point of the track in achieving enough speed for the car to successfully travel around the loop. When the right combination of initial track height and weight of the vehicle occurs, centripetal force is achieved.</p>	
Summary Statement My project is a study of centripetal force using a Hot Wheels car and track.	
Help Received Mother helped buy materials. Parents and science teacher explained the concepts of centripetal force and Newton's Laws of Motion.	