



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Kylen C. Maple	Project Number J0116
Project Title How Does Shooting a Soccer Ball at a Target with Different Angles and with Spin Affect Your Success?	
Objectives/Goals My project was to determine how angle and spin affect the trajectory of a kicked soccer ball. My objective was to learn how my success rate would vary by shooting a soccer ball with or without spin from different angles.	
Abstract Methods/Materials A soccer ball was shot at a goal divided into three equal sections from five angles. Each angle was exactly 32 feet apart on a line that's precise center point was 18 yards from the goal. At each angle the soccer ball was kicked on a left, right and center point with enough force to produce the desired loft and curve trajectory (Magnus force). Materials used were size four soccer balls, size four soccer cleats, tape measure and a regulation size goal and soccer field. A right-footed, 75 pound eleven year old was used as the kicker.	
Results My results showed that shooting a soccer ball on it's center point consistently hits it's target more than kicking it on it's left or right point with spin. I realized that spin has a big affect on the trajectory of a kicked soccer ball.	
Conclusions/Discussion In a real game situation, the shot I least made (the one with spin and curve) may be the best. This is because at my age group this is the hardest shot to accomplish and the least expected. The ultimate intention is to deceive the goalie.	
Summary Statement How my success rate would vary by shooting a soccer ball with spin or without spin from different angles.	
Help Received My parents helped with data logs, editing and typing. My science teacher Mr. Lane advised on my project.	