



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Marcus A. Burke	Project Number J1401
Project Title To Switch or Not to Switch? That Is the Question: The Monty Hall Problem	
Objectives/Goals WHEN ASKED IF YOU WANT TO SWITCH TO ANOTHER DOOR SHOULD YOU SWITCH OR STAY WITH YOUR FIRST CHOICE? WILL YOU HAVE A BETTER CHANCE OF WINNING? HYPOTHESIS:I BELIVE PEOPLE WHO STAY WITH THEIR ORGINAL ANSWER WILL WIN MORE THAN THOSE WHO SWITCH BECAUSE WHEN ON OF THE DOORS WITH THE GOAT IS OPEN ANS SHOWN THEN YOU HAVE A 50/50 CHANCE THAT YOUR DOOR HAS THE CAR.	
Abstract Methods/Materials 1. EXPERIMENT CONTROLLER TO ADMINISTER THE GAME 2. PLAYERS (RECOMMENED UP TO 30 BUT CAN BE LESS) TO PLAY A TOTAL OF 100 TIMES 3. PEN 4. SPREADSHEET FOR DOCUMENTING DATA 5. 3 CARDS WITH ONE HAVING A PICTURE OF A CAR AND THE OTHER TWO CARDS WITH A GOAT. 6. DISPLAY MADE OF WOOD WITH THREE DOORS TO PLAY THE GAME	
Conclusions/Discussion CONCLUSIONS, WHEN ASKED IF YOU WANT TO STAY OR SWITCH TO ANOTHER DOOR SHOULD YOU SWITCH OR STAY WITH YOUR FIRST CHOICE? I HAVE FOUND THROUGHT THE EXPERIMENT THAT YOU WIN MORE OFTEN IF YOU SWITCH YOUR DOOR. WILL YOU HAVE A BETTER CHANCE OF WINNING? THE ANSWER IS YES BECAUSE YOUR ODDS INCREASE. WHAT ARE YOUR ODDS OF WINNING STATISTICALLY, YOUR ODDS OF WINNING BEFORE YOU SWITCH IS 33% CHANCE OF PICKING THE WINING DOOR BUT SWITCHING DOORS DOUBLES YOUR ODDS TO 66% CHANCE OF WINNING. MY RESULTS GAVE ME SIMILAR NUMBERS,A 38% CHANCE OF WINNING WITHOUT SWITCHING ANS A 68% chance of winning if you do switch i expect that if i do more trials the results would be oftern more close to 1/3 and 2/3.	
Summary Statement MY PROJECT IS ABOUT A GAME HOST WHO MADE IT BIG AND SHOWED YOU HOW YOUR ODDS WOULD BE TO SWITCH OR NOT TO SWITCH	
Help Received MY DAD HELPED MY MAKE THE DOORS GAME. MY MOM HELP CHECK SPELLING AND BOUGHT THE BROAD	