



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

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Project Title How to Win at Yahtzee	
Abstract Objectives/Goals The objective is to find the most and least probable rolls in Yahtzee. With this information, I can use statistics to increase my chances of winning. Methods/Materials I used a pencil, paper, calculator, and 5 dice. First, I used math to calculate the odds of rolling certain Yahtzee hands. Then I rolled 5 dice, 100 times, and recorded my results. Results The following results show the probability of Yahtzee hands (rolls), from most likely to occur, to least likely: a) ones, twos, threes, fours, fives, and sixes b) three-of-a-kind c) small straight d) full house e) large straight f) four-of-a-kind g) Yahtzee Conclusions/Discussion To minimize the frequency of "zero" points (incomplete Yahtzee hands) on your score card, this is my conclusion: First, try to get a Yahtzee. Next, go for a four-of-a-kind. Then (in descending order) try to get a large straight, a full house, a small straight, then a three-of-a-kind. You want to try to get the harder rolls first. You should always try for a roll that you're in a good position to achieve, but you should lean toward rolling a more improbable roll. The good thing about this strategy is that you can use the easier Yahtzee hands as a safety net.	
Summary Statement To discover a winning strategy in the game of Yahtzee.	
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