



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Alvin B. Chan	Project Number J2108
Project Title Battle of the Baseball Bats	
Abstract Objectives/Goals The objective is to determine which type of material used on a baseball bat would hit the ball the furthest. Methods/Materials To obtain results, one composite, aluminum, and wood bat are needed. 20 baseballs and one tee will also be needed as well as a machine that will be built that will sling back to hit the ball when pushed back. Testing will begin with one bat from the top of the bat. This position will be known as position A. Once 15 hits are completed from "A", the ball placement should be moved seven centimeters down from "A". This position is called "B". Seven centimeters below "B" is "C". Position D is 7 centimeters below "C". 15 hits will be done from each position. These steps will be done a gain with the other two bats. Results The composite bat had an overall average of 5.59 meters. The aluminum bat had an average of 4.521 meters, while wood had an average of 3.25 meters. Out of the four positions that were tested, position "B" had the highest total distance averaging 4.917. However "C" had an average of 4.916, just 0.001 less than "B". Conclusions/Discussion It was thought that the composite bat would have a 15 percent difference from the aluminum bat. However, there was a 25.857 percent difference. Between the composite and wood bat, there was a 72 percent difference! Aluminum and wood had a 39.1 percent difference. It was thought that there would be a 15 percent difference between the wood and aluminum bat. Part of the hypothesis was that the order from furthest average distance to least was: Composite, aluminum, wood. This was proven to be correct. Due to the "trampoline effect", these results suggest that composite bats have a softer barrel than the aluminum and wood bat, which allows less energy to be wasted.	
Summary Statement Determining either a composite, aluminum or wood baseball bat would hit a baseball the farthest.	
Help Received Dad helped supervise the building of the machine. My teacher Ms. Rosichan helped guide me throughout my experiment.	