CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
Brianna N. Smet

Project Number
J0229

Project Title
Batters Up

Abstract

Objectives/Goals
My objective is to determine which bat alloy can hit the bat the farthest.

Methods/Materials
The materials needed to accomplish this experiment are; nine numbered flags, a batting tee, a tape measure, the Mechanical Hitting Device, bats, new softballs (one for each bat you test), a pen, paper or composition book, a clipboard, one helper, and finally a big field for testing.

At the field assemble the swinging device onto its base and pick a bat to do the experiment with. Place two hose clamps onto the bat and attach the bat to the mechanical swinging arm. Slide the bat handle down to where it is touching the end of the arm. Then tighten the clamps around the bat handle and the swinging device arm. Get a new ball and set on the tee, so that the sweet spot of the bat will strike the ball. Grasp the bat and pull back until you hear a click. Hold the barrel of the bat with your finger and when ready let go. The first swing is a test, so that you can see if you need to change the height of the tee. Next, put the same ball back on the tee and then repeat the last two steps. Let the ball roll until it comes to a complete stop and then take your first flag and place against the back of the ball, and press into the ground. Repeat with the different numbered flags until you have finished a total of nine trials. Measure from the back of the tee to each flag and record each distance. Unlatch the bat from the swinging device arm by loosening the clamps and repeat all steps until you have finished testing each bat.

Results
The SC777 alloy, the Connexion bat, had the longest average distance of how far the ball traveled after being hit. The wood bat had the shortest average distance.

Conclusions/Discussion
My conclusion is that the combinations of alloys that make up a bat have an important role on how far the ball travels after being hit.

Summary Statement
My project compares the distance of how far the different alloys hit the balls.

Help Received
My mom helped type my report and my dad and one of his co-workers helped me build the Mechanical Swinging Device.