

CALIFORNIA STATE SCIENCE FAIR**2001 PROJECT SUMMARY**

Your Name (List all student names if multiple authors.)

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Science Fair Use Only

J0929

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

Rocketry

Division

J Junior (6-8) J Senior (9-12)

Preferred Category (See page 5 for descriptions.)

1 - Applied Mechanics/ Structures & Mechanisms/ Manufacturing

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

OBJECTIVE: My objective in this project was to learn which type of fin design can cause a model rocket to fly highest.

MATERIALS AND METHODS: The materials I used are basic Alpha rockets with balsa wood fins, A8-3 model rocket engines, and a model rocket launch kit. To run my experiment I first build four identical model rockets except for the fins. The fin designs used were a right triangle, an equilateral triangle, a half-circle, and a rectangular fin design. To find out the height in feet that the rockets flew I used an altimeter and a mathematical process called trigonometry to calculate the distance.

RESULTS: After the test, I discovered that the right triangle fin design flew the highest and almost tied with the equilateral triangle fin design. I also found out that the half-circle and rectangular fin designs performed poorly.

DISCUSSION: My results supported my hypothesis which was that the right triangle fin design would fly the highest. I learned not to use the half-circle and rectangular fin designs on any more rockets because of their poor performance compared to the other fin designs. This experiment demonstrated that the half-circle and rectangular fin design do not create enough rotation for a rocket to fly straight and high.

Summary Statement (In one sentence, state what your project is about.)

My project is about finding out which of four fin designs causes a model rocket to fly highest.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Mother helped mount some of board; Father helped in transportation and in rocket launching supervision; Mr. Cohagan (teacher) helped by supplying rocket engines and launch supplies.