



California Science Center  
**CALIFORNIA STATE SCIENCE FAIR**  
**2001 PROJECT SUMMARY**

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

**Alan L. Reintjes**

**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.