



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Sarah M. Penicks	Project Number 22682
Project Title Flight of Discovery	
Objectives/Goals I believe that the rocket that I have built will fly 350 # 1500 feet into the atmosphere with a type G engine. Abstract Methods/Materials Estes rocket g-force kit v Recovery system (Parachute and Shroud lines) v Launch lug v Recovery wadding v Fins v Engine mount v Nose cone v Body tube v Igniter & Plug v Ezacto hobby knife kit v 12 hour 2 set epoxy glue v Pad of steel wool v Sheet of fine sandpaper v Type #G# engine v Rocket Launch pad kit v Roll of scotch tape v Pencil Results I assembled and launched the rocket and my hypothesis was correct. However, my rocket blew up upon impact because the motor casing caught fire in mid-flight and burned through to the shock cord and parachute shroud and all the way through the body tube thereby destroying the rocket. However, the flight was a success in that it reached its estimated altitude. Had the recovery system worked properly, it would have been a good flight. Therefore, after building and launching the rocket, I must conclude that the experiment was a success although the rocket was lost. I learned volumes about the dynamics of an object in flight. I now understand what the four forces that act upon an aircraft in flight are. I learned that aircraft must have a center of gravity in order to remain straight and level during flight. I learned how to reduce the drag on my rocket so it would accelerate faster. Overall, the project was a success. Conclusions/Discussion	
Summary Statement My project is about the flight of a model rocket.	
Help Received 1st Lt. John Binder, C/Capt. Brysen Davis, Shannon Penicks	