



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Jake M. Graham	Project Number J0111
Project Title Taking Flight	
Abstract Objectives/Goals The goal of my project was to find out which airfoil design created the most lift. Methods/Materials Using wood and wire hangers, I built a device to test the airfoils. I purchased foam and a foam cutter to make the airfoils. I already had the rest of the tools I needed to complete the project (drill, drill bit, scale, fan, pliers, and wire cutter). Results Six different airfoils were tested, three times each. I learned that the airfoil design that was curved on both the top and the bottom created the most lift. This design was called the "Circular Arc". Conclusions/Discussion One of the most important factors in aeronautical engineering is the design and effectiveness of airfoils. My experiment compares different airfoil designs and proves that their shape and design can affect the efficiency of air flight. It was concluded that one design ("Circular Arc") was the most efficient airfoil design.	
Summary Statement I determined which type of airfoil would create the most lift.	
Help Received I designed the project by myself. My grandfather helped me design the structure that held the airfoils. My mother and father helped me by proofreading my report. My teacher, Mr. Scott, helped me by answering any scientific questions I had.	