



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Isabella C. Welch	Project Number S2212
Project Title How Weight Affected the Flight Dynamics of Quetzalcoatlus northropi	
Abstract Objectives/Goals Using "off the shelf" 3D & flight simulation software, I attempted to discover how weight effected the flight distance of Quetzalcoatlus Northropi. Methods/Materials Laptop Computer with Unity3D (3D Software) and a Flight Simulator plugin. Tested two different scientific weight models, Witton and Chatterjee & Templin, of the Quetzalcoatlus along with different flight wing positions. Results I found that a heavier model such as Witton's, would fly the best and furthest. Quetzalcoatlus is thought to have migrated very long distances and my data seems to support this theory. Conclusions/Discussion By making use of inexpensive and open source virtual reality software and tools, I used my research data from previous years and visualize the results. This provided a way to understand the complexities of Quetzalcoatlus flight dynamics. My results found that a heavier model such as Witton's, would fly the best and furthest. Quetzalcoatlus is thought to have migrated very long distances and my data seems to support this theory.	
Summary Statement Using "off the shelf" 3D & flight simulation software, I attempted to discover how weight effected the flight distance of Quetzalcoatlus Northropi.	
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