



CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY

<b>Name(s)</b> Isabella C. Welch	<b>Project Number</b>  36836
<b>Project Title</b> How Weight Affected the Flight Dynamics of Quetzalcoatlus northropi	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Using "off the shelf" 3D &amp; flight simulation software, I attempted to discover how weight effected the flight distance of Quetzalcoatlus Northropi.</p> <p><b>Methods/Materials</b> Laptop Computer with Unity3D (3D Software) and a Flight Simulator plugin. Tested two different scientific weight models, Witton and Chatterjee &amp; Templin, of the Quetzalcoatlus along with different flight wing positions.</p> <p><b>Results</b> 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.</p> <p><b>Conclusions/Discussion</b> 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.</p>	
<b>Summary Statement</b> Using "off the shelf" 3D & flight simulation software, I attempted to discover how weight effected the flight distance of Quetzalcoatlus Northropi.	
<b>Help Received</b> Michael Bruce Habib, PhD: Research Associate at the Dinosaur Institute at the Los Angeles County Museum of Natural History	