



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Erin K. Lamphear	Project Number J2215
Project Title Somewhere Over the Rainbow: A Study of Nectar Color Preference in Anna's Hummingbirds	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Hummingbirds are amazing creatures, and many people hang feeders to watch the hummingbirds up close in their own backyards. The purpose of my project was to determine if Anna's Hummingbirds have a preference in nectar color. Observations in my backyard and research lead me to the hypothesis that hummingbirds would prefer warm colors such as, red, yellow, and green.</p> <p>Methods/Materials Six 100 ml feeders were filled with a 1:2 sugar to water ratio. Five common flower colors were chosen; red, yellow, green, blue, and purple; clear was used as a control. The feeders were put out on a custom-made feeder bar for four 10-14 day long trials. The nectar remaining in the feeder was measured to determine the nectar consumed over each trial. Then, the feeders were refilled, assigned new random positions, and hung back on the feeder bar for the next trial.</p> <p>Results Over the four trials, the hummingbirds consumed 181 ml of red, 191 ml of yellow, 170.5 ml of green, 110.5 ml of blue, 135.5 ml of purple, and 108 ml of clear. The warm colors, red, yellow, and green; were found to be preferred while blue, purple, and clear were least preferred.</p> <p>Conclusions/Discussion The warmer colors may have been preferred because they are common amongst flowers Anna's Hummingbirds visit. Additionally, red and yellow are often seen in commercially produced feeders, causing the hummingbirds to be biased by associating red and yellow with food. Purple was less preferred than red, yellow, and green; and is not as common locally in flowers Anna's Hummingbirds visit. Blue and clear were selected against demonstrated by their consumption rate which was half or less of the preferred colors. This is supported by research which suggests Anna's Hummingbirds rarely feed from blue flowers. I theorize that clear nectar, the control, being transparent would be less noticeable to the hummingbirds.</p>	
Summary Statement The purpose of my experiment was to determine if Anna's Hummingbirds have a preference in nectar color.	
Help Received My dad helped me to build the custom-made feeder holder and bar. My mom and my teacher edited my paper.	