



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Emma A. Debasitis</b>	<b>Project Number</b> <b>J0208</b>
<b>Project Title</b> <b>An Arrow's Flight</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The goal of my experiment was to learn at what angle an arrow will fly the farthest distance. <b>Methods/Materials</b> The materials used were: a bow (with a set draw length and weight), three identical arrows, a range finder, a rag, a release, a quiver, a protractor, and an assistant. The procedure was to shoot the three arrows with the bow at different angles to see which angle makes the arrow travel the farthest. I then measured the distance the arrow traveled with the range finder. I then calculated the average distance traveled by the arrow at each angle. <b>Results</b> My result was that the arrow traveled the farthest distance when it was shot at the 45 degree angle. Although the arrows shot at 40 and 50 degrees traveled a great distance, they did not travel as far as the arrows shot at 45 degrees. <b>Conclusions/Discussion</b> My hypothesis was correct. The arrow traveled the farthest when shot at the 45 degree angle. To find the maximum distance an arrow can fly with a certain bow, shoot it at a 45 degree angle. Then you will be able to find the maximum distance an arrow can fly with a certain bow. This information would be helpful in archery tournaments when shooting without sights.	
<b>Summary Statement</b> My experiment determined at which angle an arrow will travel the greatest distance.	
<b>Help Received</b> Mother helped measure angle; Father helped measure distance; Kirigin Cellars supplied land.	