The Flight of Arrows

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The goal of this project was to determine the most efficient number of fletchings on an arrow, testing to see how a change in this number of fletchings would affect the shooter's accuracy. It was hypothesized that a decrease in the number of fletchings on an arrow would result in it being inaccurate. To test this theory, an archery range was set up at two distances. At each distance, a total of 9 arrows of first three, then two, then one, then no fletchings were shot and their distance from the center cross was measured. This distance obtained was used to determine the arrows' accuracy. The experiment resulted in showing that the arrows with 3 fletchings were most accurate with a total average accuracy of 72.5% while the arrows with 2, 1 and no fletchings resulted in total average rates of accuracy of 44.5%, 0.00%, and 16.5% respectively. Although these rates were higher overall when shooting at 5 meters compared to 10, the data and observations lead to the conclusion that decreasing the number of fletchings on an arrow did, indeed, decrease its accuracy.

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