

Optimal Aerodynamics in Paper Airplanes

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Abstract

The purpose of this experiment was to see which features of an airplane improve its aerodynamics and positively benefit its distance. To answer the research question, three different paper airplanes were flown and their distances were recorded and compared to see which features helped the plane fly a far distance. The researcher found three paper airplane designs on the internet and made all three out of copy paper. After making the designs, she tested them (for distance) in a controlled experiment. All three planes were thrown from the same starting point and multiple trials were completed to provide a more accurate set of data. The airplane with the farthest distance featured a heavy, sturdy nose with larger wings and complex folds to hold the airplane's sides together. The least effective paper airplane had a short and stubby body with blunt wings. After analyzing my results, I came to the conclusion that an ideal airplane would have a slightly larger amount of mass in its nose, thin but wide and sturdy wings, and a sharp pointed nose. It would also be beneficial for the plane's wings to start off narrow and widen out at the ends at a slow gradient.