

Science Fair Project

What makes a plane fly the best??

February 7th, 2022



Introduction

Why I am interested:

I was Amelia Earhart for my museum project and i wanted to learn more about flight and planes.

Research question:

Which paper makes the best paper airplanes and why?

Hypothesis & Research plan

Types of paper for planes:

1. Tissue paper - Yellow
2. Regular printer paper - White
3. Construction paper - Brown (my little brother drew on it)



Hypothesis (which plane will fly best?):

White will go the farthest because it is the middle. Yellow is too light and Brown is too heavy.

Experimental Design:

We will weigh each plane to see how different they are.

Each plane will get 3 tosses from the same distance.

We will measure the distance of each toss and average them.

Controls:

- Each plane is made from the same size paper
- Each plane is the same shape
- Each plane will fly from the same height (6 feet)

Variables:

- Type of paper/weight of plane
- Wind - cannot control



Step 1.) Weighing the planes

Table. 1 Weight of planes	
<u>plane type</u>	<u>weight (g)</u>
Yellow	1.2
White	4.8
Brown	5.1

Table 1. Each plane was weighed on an analytical balance.



Step 2.) Flying the planes

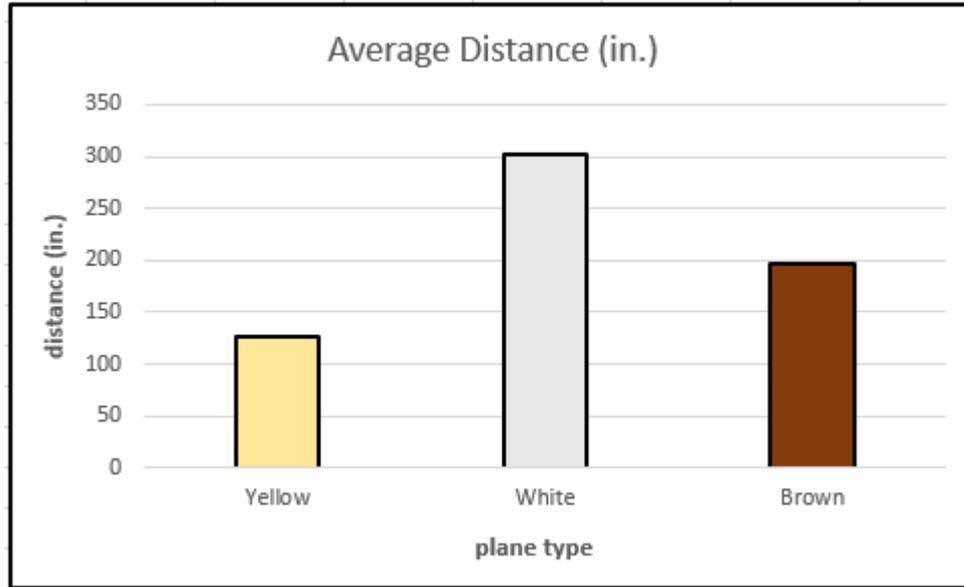
Table 2. Length of flight (ft. in.)

	Flight 1.	Flight 2.	Flight 3.	Average Distance
Yellow	16' 8"	6' 8"	8' 3"	10' 6"
White	15' 6"	23' 2"	31' 1"	25' 3"
Brown	10' 8"	15' 4"	24' 4"	16' 5"



Results and Data Visualization

Figure 1. Graph of Average Distance Flown



Conclusions:

- The white plane was determined to fly the best out of all of them.
- The white plane was more sturdy than the yellow plane but lighter than the brown plane.
- A good plane needs to be light but also sturdy.