

Our Paper Car's Run-Throughs Testaments

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ABSTRACT: Every tyre design, materials and base plans are considered well before our group's final product; redoing everything every single time. Through our endless trials, we were able to produce a well-functioning car that was able to move properly.

KEYWORD: tyre designs, materials and base plans.

1.0 INTRODUCTION

Our group, Gruselle, experienced a lot of failures and success throughout the process of making the paper car. Before being able to undergo our test runs, we had to make sure at least our tyre and base are ready. For this, I prepared a section for each part where we had to struggle a bit before finding the perfect solution to it. Only after solving these problems were our car able to move stably.

2.0 TYRE DESIGNS

At first, our plan was to create a tyre with polystyrene and cardboard, but we soon figured out it would not be able to support our paper car. That's when we had the idea to just use mounting board, cutting circles out of it for days. Our second tyre, we added sandpaper around it in hoping it could increase the friction of the car with the ground. However, it appears as a hindrance instead since it makes our car slower. So, we took it off entirely.

3.0 BASE

The base is the hardest part of it all; there are so many problems with it where we literally had to

redo it all over for five times, maybe more. Besides the pulley, the main problem for the base would be on how to keep the tyre shaft stay right where it is. We had the idea to put sponge around the shaft- scratch that, it was a failure. After that, we tried to put it in place with a plastic tightener. Though it was not affective at all. We did have an idea to use straws, we also took the idea out the first time until our beloved lecturer, Ts. Dr. Arba'ain advised us to use it again. It was affective on our second try. The materials we use was also changed from using a straw board to a mounting board to make it sturdier.

4.0 BODY SHAPE

Compared to our tyre and base, our body was easier to deal with. There was no evident problem with It except for being a bit too heavy because the entirety of it was used of mounting boards. We changed it to using a cereal cardboard box afterwards to deal with the heaviness of our paper car. However, we were still using cardboard as the lower part of our body in the final product to bear with the fragility.

5.0 TEST RUN PROCEDURES

For the test run, we did it after every adjustment we made to the paper car twice.

There are a total of 7 trials overall. With the 5th and 6th using the same concept.

6.0 DATA TABULATIONS

TEST RUN	TIME TAKEN FOR PAPER CAR TO GET TO THE 10 m MARK (s)	
	1st	2nd
BASE 1 (STRAW PAPERS BASE)	6.8	5.0
BASE 2 (MOUNTING BOARD BASE WITH CARDBOARD TYRE)	7.3	6.5
BASE 3 (MOUNTING BOARD BASE WITH MOUNTING BOARD TYRE WRAPPED WITH SANDPAPER)	9.4	10.0
BASE 4 (MOUNTING BOARD BASE WITH MOUNTING BOARD TYRE)	8.3	8.5
BASE 5 (MOUNTING BOARD BASE WITH MOUNTING BOARD TYRE AND MOUNTING BOARD BODY)	9.2	9.0
BASE 5 (MOUNTING BOARD BASE WITH MOUNTING BOARD TYRE AND SECOND BODY)	8.5	7.6
OFFICIAL TEST RUN	8.6	8.3

Based on the table, our official test run is slower than our first base. Though it looks as if the first base is better, it was not as sturdier as the last.

7.0 CONCLUSION

This project was a great early introduction to student's university projects. As a group, we get along very well- it was a great relief. We get to experience conducting a project, working together, and solving problems together as a group. I look forward to future projects, making sure we are as determined as we were when conducting this project. Even though we did not win anything, I still considered Gruselle paper car was a success.