



APPLICANT 6 – AN ELECTICALLY POWERED BUGGY

What does/did your project aim to achieve? **Please write up to a maximum of 300 characters**

I aimed to create a fully electric, driveable kart which had the ability to spin round when a handbrake is applied to tilt castors, changing the direction of the rear wheels. I built a prototype which I planned to improve as I trialed and tested it. For example, I need to create more space between the driver and the power wheel for better stability and increased comfort.

Please describe and explain your project making clear and direct reference to your supporting documentation. **Please write up to a maximum of 1000 characters**

I had to decide what the best materials would be to make this kart out of, the mechanisms and the dimensions of the kart. This involved a small amount of trial and error and adjustment to the kart and mechanisms throughout. I decided to make the base out of wood and have it supported by aluminium along the edges to provide support. Another decision which needed to be made is where to place the power wheel so that it would be comfortable for the driver by improving stability.

What have been the successes and failures of your project so far? **Please write up to a maximum of 500 characters**

I made the decision to change the castor wheels at the rear to increase their size to decrease the angle at which the kart operated to improve stability. This involved changing the rear axle and the handbrake mechanism to accommodate for the change. I also made the decision to place a protective hollow steel tube over the threaded rod used in the handbrake mechanism as this had bent out of shape during trial runs of the Kart even before it was placed under large amounts of stress.

What lessons of an engineering nature have you learnt from working on this project? **Please write up to a maximum of 500 characters**

So far, I have learned the importance of testing projects for failures and everything can always be improved. Not only this I have developed skills using many new tools such as welding and using different types of drills and saws. Also, I have found it important to be able to find different solutions to a problem that are not too complex, for example, the castor wheels kept over-rotating and I had to find a quick simple fix of attaching a metal plate with screws to restrict the movement.

VISUAL EVIDENCE





MARKER'S COMMENTS

This applicant provides an excellent writeup of what is clearly a home-built project. This makes it very worthy as it is not 'driven' by school and would therefore need a lot of motivation to complete the project. The applicant has clearly finished the project and it is great to see pictures of it in use! It is also worth noting that the writeup shows that the applicant experimented with construction methods, and this evidence helps to boost the mark. One word of warning though, where possible with home-built projects, try to authenticate the fact that the project is all your own work through both the writeup and the visual evidence.