Project 2.2.4 Pull Toy Construction

Introduction

A pull-toy is pulled along the ground and a movement is produced, such as a head nods, a tail wags or a figure bobs up and down. The pull-toys use mechanisms to transfer energy from the wheels to the characters that define them.

Equipment

- Engineering notebook
- Pencil
- VEX kits

Procedure

With your knowledge of mechanisms, you and your partner will use the design process to design and build a mechanism or series of mechanisms that will meet the following criteria:

- The mechanism is to be built entirely from VEX parts provided in the lab.
- The mechanism is to be built on a small 4 wheel chassis capable of being pulled across a table-top surface, the movement of the wheels will make the toy move.
- A gear mechanism attached to the wheels will make another part of the pull toy move.
- An illustration should be added to the output of the mechanism so as to simulate the toy.

Use the templates to document your design process.

- Design Brief Template – Define the problem.
- Decision Matrix Template – Decide which solution you will pursue (each student in the group should sketch and annotate at least one idea).
- My Design Process Solution – Describe what steps your group takes to solve the problem.
Conclusion

1. What would you have changed if you had time to redesign one part of your pull toy?

2. Which solution to the pull toy problem presented by another group was intriguing to you and why?