



5th GRADE ROVER

HOME

ABOUT

CONTENT

OTHERS



MARS ROVER

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PROBLEMS

- Some of the problems we had were the length and the weight of the rover.
- We wanted to make the body light and not too long.
- The first model was a problem because it had those 2 flaws, too heavy and too long.
- We fixed the weight by getting rid of the excess parts and the length by putting the important parts closer together and shortened the rover.

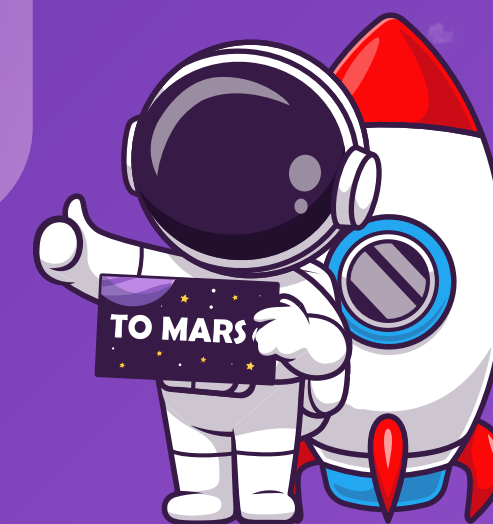




GOALS

- For the rover we had 1 goal of being able to pick up rocks.
- To make it where we can grab rocks and lift them in a little bin.
- We at least wanted to hold 5 rocks. And to be a great team and work good together.

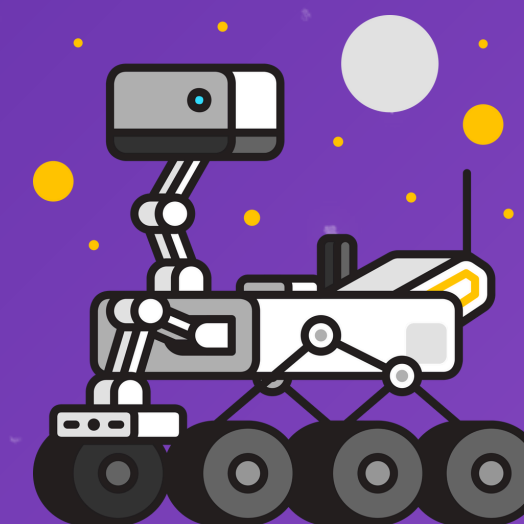
- Facing off in the tournament we had 3 goals.
- The first one is to be one of the fastest rovers.
- The second one is to be as light as possible, And the last on is to do good in the blind drive.

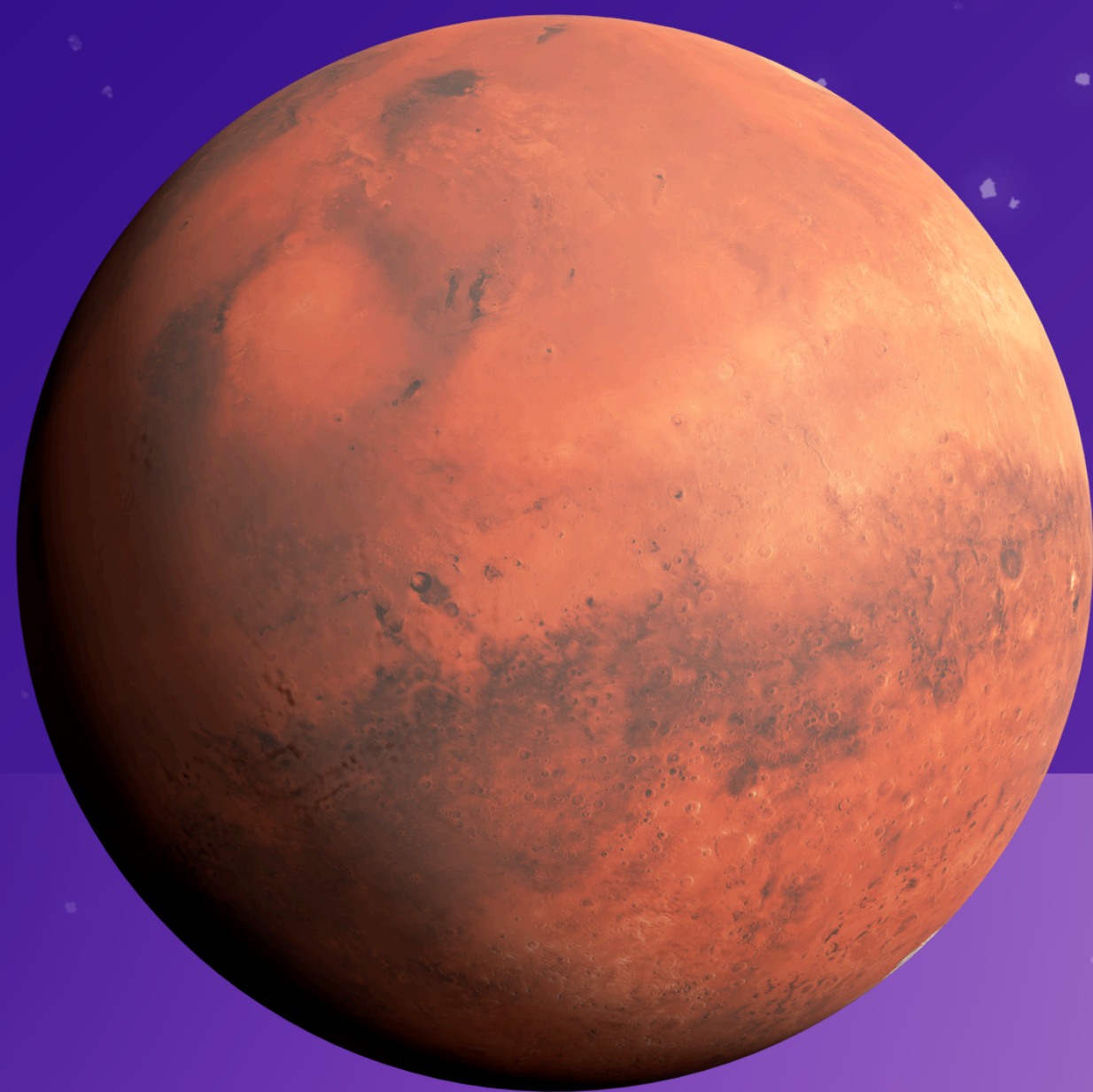




BRAINSTORM

- Building the Mars Rover led to much brainstorming.
- But there was one thing we had to think about the most, and that was the claw mechanism.
- We came across a design then we changed it.
- Brainstorming about all the possible ideas.
- Changing the design before coming across the best one in our opinion.





BUILD

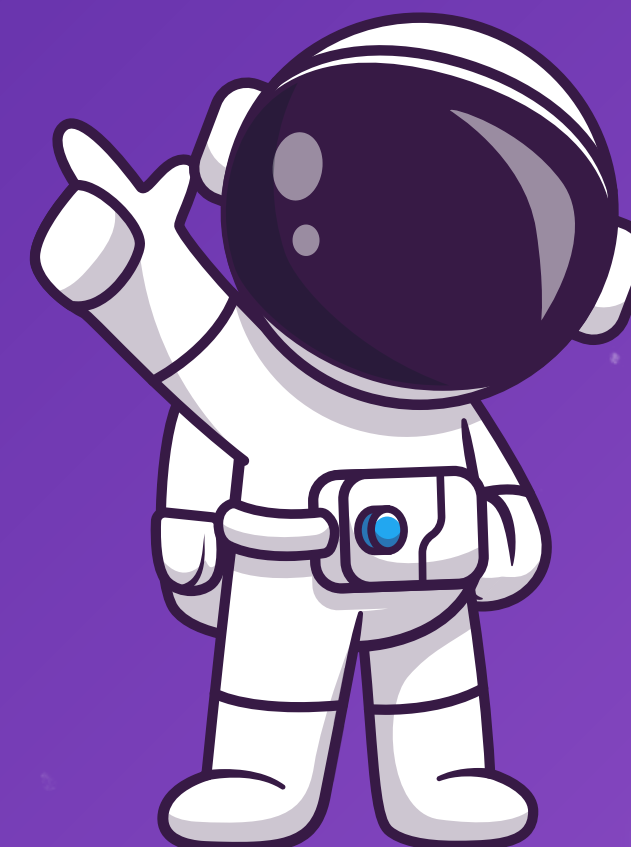


- We started by building a base for the rover.
- This base consisted of heavy and longer body.
- We didn't think much of it at the time. The main focus was the motors and how to power multiple things.
- We made one motor power the steering, and the other made the rover move.
- The second main focus was the claw and what design to go with.



REVIEW

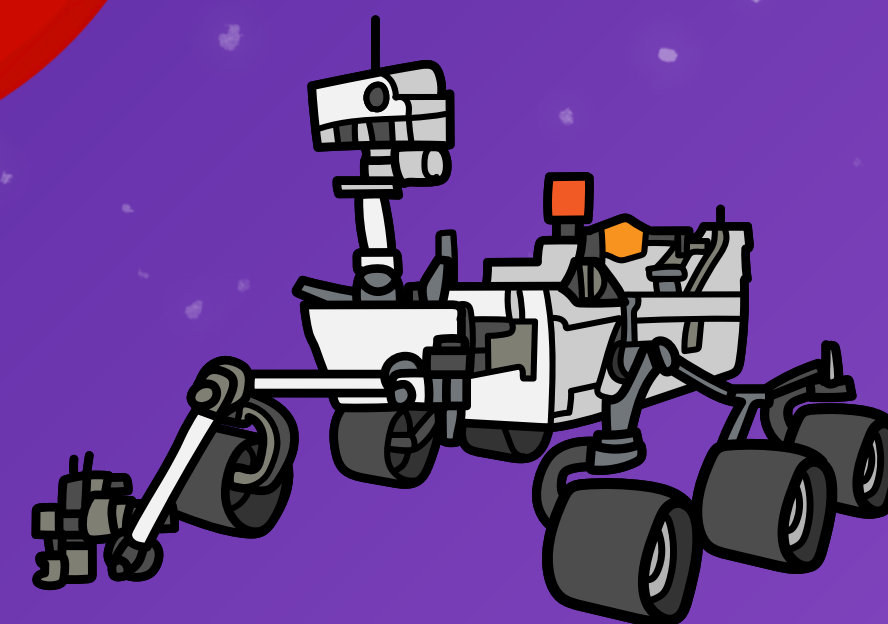
- After finishing the model we had to fix the flaws.
- The first thing we fixed on the rover was the weight and the length.
- We examined the rover and found a few more flaws, like some things with the claw and gears.
- And there were still not needed parts.
- We got rid of the extra parts and got back to work.





BUILD

- We started to rebuild some of the flaws that needed to be fixed.
- Like the weight for example, we needed to make the rover light. We made the rover most light when we got rid of the extra parts.
- But we still had to fix the length. We shortened the rover by using smaller plates.
- And finally we had to find a perfect design for the claw.
- We decided to go with a chopstick design that picks up the rock and drops it into a bin.

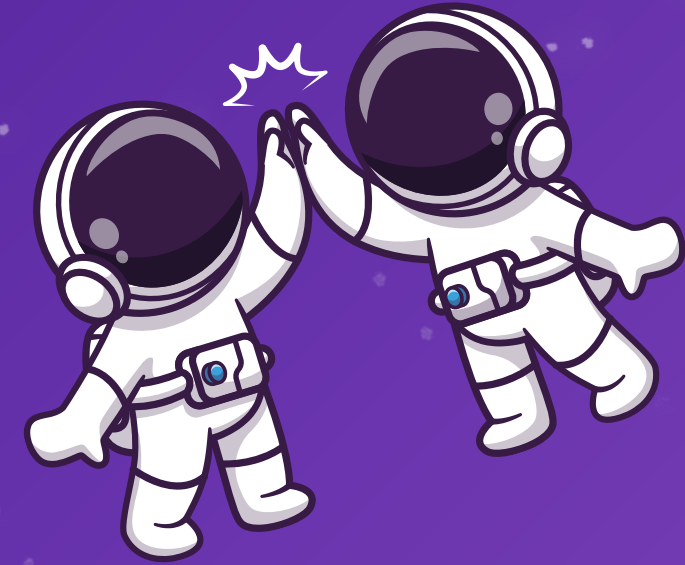




TESTING THE ROVER

- In Space there are a lot of challenges.
- We had to test our rover to make sure it was capable to complete the tournament.
- We tested the blind drive, Speed, and incline .
- We went into the school gym and arranged it for the blind drive.
- We then tested the speed by driving it down the hall to see how fast it would go, and decided to use a mechanical advantage.





STRENGTHS AND WEAKNESSES

- The rover has many strengths and weaknesses.
- Starting with strengths, the rover has the strengths of speed and torque.
- The rover is fast, which helps with the challenges in the tournament.
- And then the torque is one of the main strengths because it helps with all the challenges in the tournament.
- For example, it helps in the hill climb, picking up rocks, and even the blind drive.
- The main weakness is the claw.
- The claw is a weakness because it causes many problems and is hard to operate.



MARS!

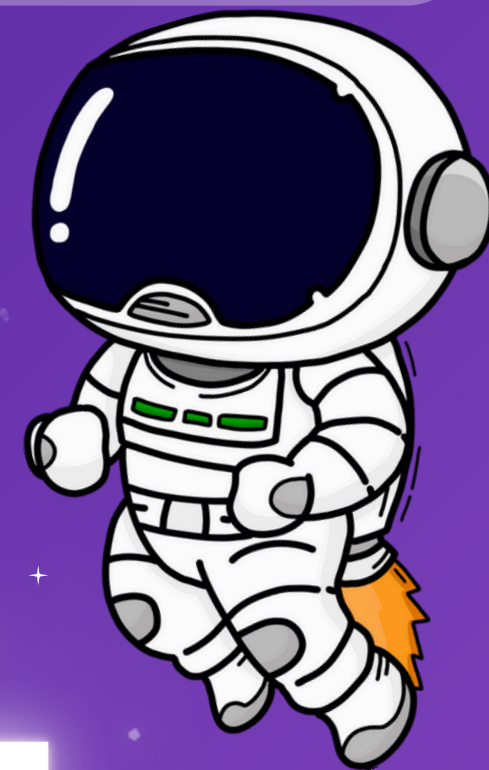
CONCLUSION

- In conclusion we have created a pretty fast, strong, light weight, and powerful rover for the Mars Rover Tournament.
- We have worked so hard on this project and we are excited to see how we do and other schools.
- Making the rover was very fun and we are glad we get to participate.





LET'S
BLAST OFF





TEAM

