Exo Planet Explorer

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INTRODUCTION:

The new James Webb Space Telescope under operation by NASA has just discovered a new Exoplanet outside of our solar system. NASA plans to send an exploratory spacecraft to land on this new planet.

Using a surface scan, NASA discovered that this planet consists of deep maze-like canyons with tall steep walls. The space agency has put out a request for bids from private space companies to build a proof of concept for a rower-like craft that can traverse these canyons and locate useful minerals and resources.

TASKS:

You and a partner have been assigned by your private space company, Zoom Space, to design, build, test, and demonstrate proof of concept for this exoplanet rover. Your report will be included in the bid, your company is planning to propose to NASA for the job of building this rover.

The rover must be able to run autonomously. The rover must be able to navigate through the maze-like canyons of the exoplanet. Your rover must be able to identify the mineral NASA is searching for. You must build the sample mazes to test your rover for proof of concept.

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You and your partner will be working on the shared website file. The website file can be found in Google Classroom. There, you will also find other resources to assist you in this task. Your website should have a cover page, a page dedicated to the building of your robot, a page for programming, and a page for testing and proof of concept videos.

Week -01: (Build)

Research, design and build the rover using the EV-3 Education Robot Kit.
Take lots of pictures of your process and your rover.
Learn how to create a shared website to write your report for this project.
Describe your rover build. Be sure to describe all the sensor attachments you added, including the medium motor. Describe how they are to be utilized by the rover in this task.

Week -02: (Programming)

Start writing the program for your robot using the Lego Mindstorms software.
Your program should have the robot use all the sensors attached to navigate the maze you made/designed. Be sure to take screen captures of all your programs, posted them to the webpage.
Write descriptions for each part of the program.

Week -03: (Proof of Concept)

Design a couple of mazes to use as a demonstration of the scenario for the exoplanet terrains.
Have your rover run the maze and make a video recording of the two mazes.
Post the videos to this webpage and write your summary of the project. Be sure to include any setbacks or obstacles you must overcome and how you manage to solve them. Remember you are here to sell your rover.

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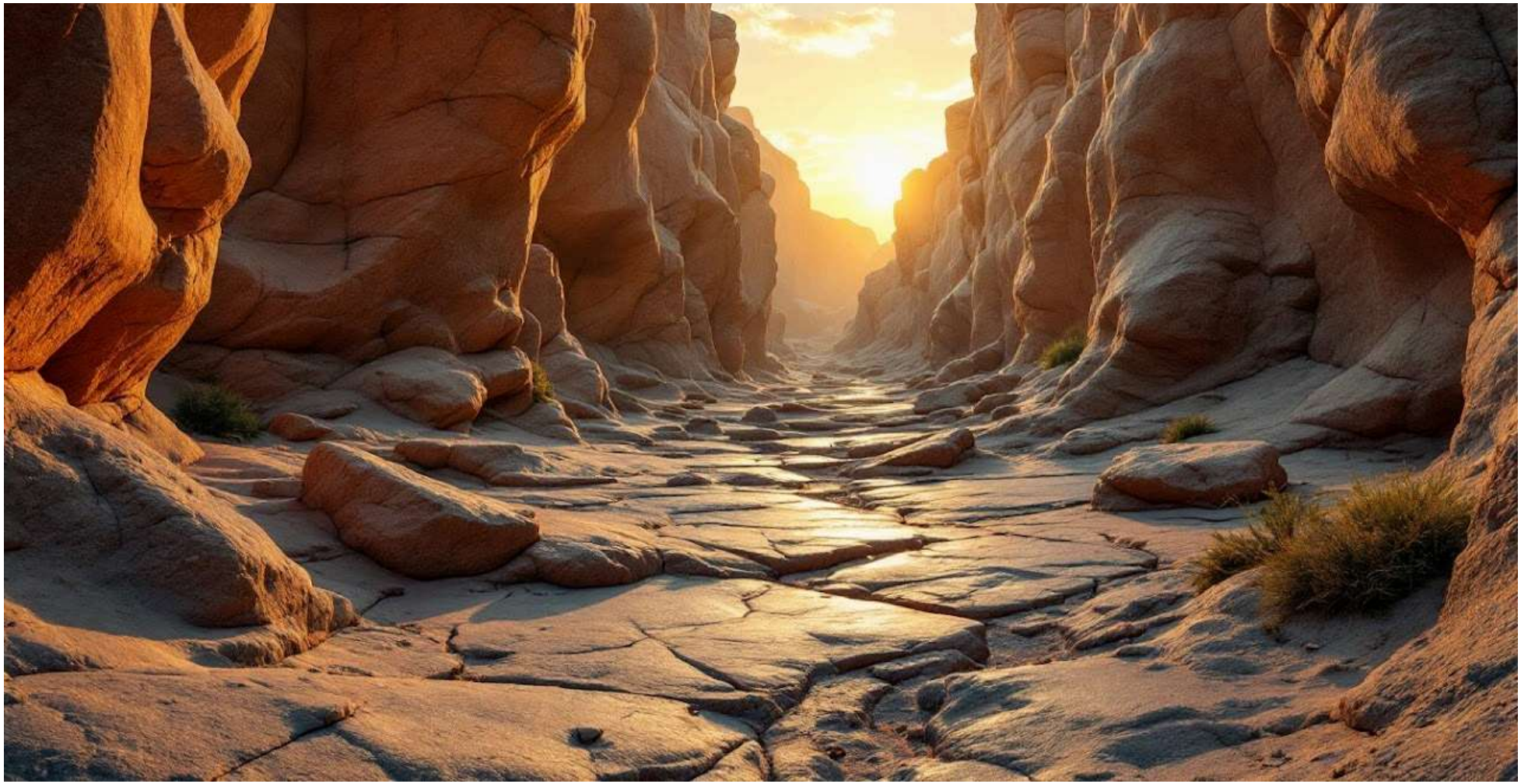

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