



### Competition Rules

We have a mission to collect nickel (Flag green) iron (Flag Red) and rock (Flag Blue) from the planet Jupiter.

1. Parallax Scribbler Robots, Arduino, Questbotics, Coding Kit, are eligible to participate. The maximum measurements of the robot are 20 x 17 cm
2. Each team will have only two and a half minutes (2:30) to activate as many flags as possible. The time will be a factor in calculating the total score.
3. The robot can only begin within the Start Zone located in the center of one side of the field. In this area, the team can manipulate the robot as many times as they want during the game, but the robot cannot be touched outside of this area for any reason. In this case, the only way that the robot can be manipulated is if one of the robot parts is over the line of the start zone.
4. If the robot is touched outside the start zone, the team will not earn any points in that attempt.
5. Every flag that is activated must be raised a minimum height. Each flag rises automatically due to a rubber band mechanism. When the kicker is touched by the robot, the flag will rise automatically. In case of mechanical failure, the judge will decide if the flag was sufficiently raised to count.
6. The scoring system includes the time and the flags activated.
7. The winner of the challenge will be the one with the highest score after all the runs are completed for the day.
8. There is no competition schedule. All teams can have unlimited attempts during the total time of the competition. When ready to participate, the team will notify the judge. At that time, the judge will let them know when they can place the robot back in the competition field.



The scoring system is explained below:

Flag Color	Points Per Flag	No. Of flags	Total Points
Green	2	3	6
Red	4	4	16
Blue	6	3	18
Maximum points possible			40

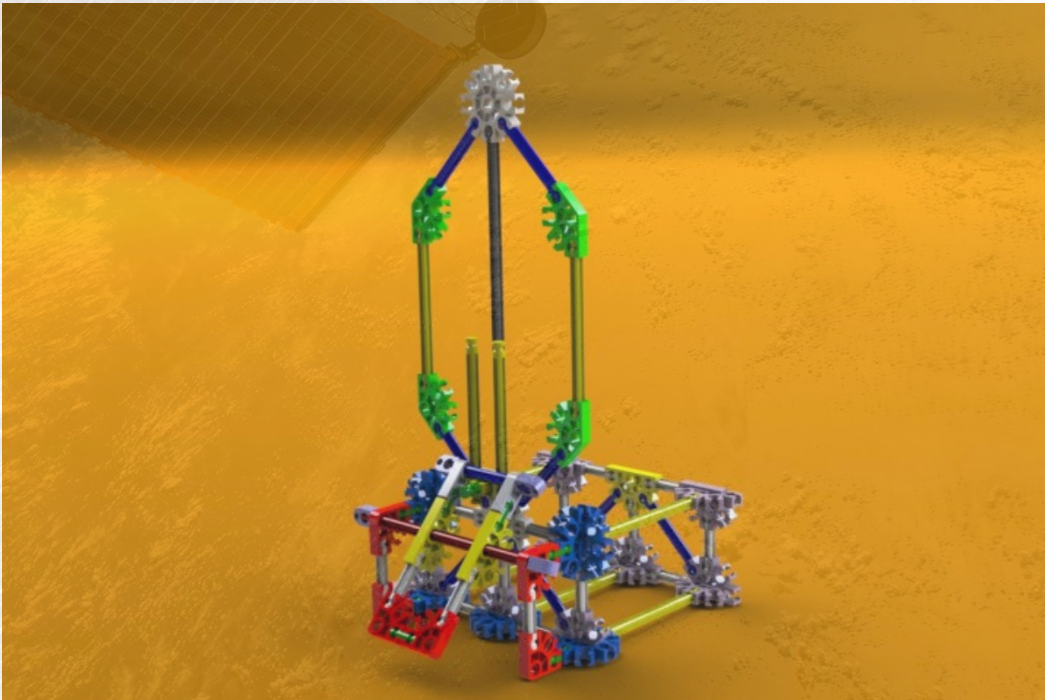
$$\text{Flag Value} = \frac{\text{Total points scored during run}}{\text{Maximum Point Possible}} \times 100$$

$$\text{Time Value} = 1 - \left( \frac{\text{Time of run in seconds}}{\text{Maximum Seconds}} \times 100 \right)$$

$$\text{Total Score} = \text{Flag Value} + \text{Time Value}$$

About the Kicker Flags and Field

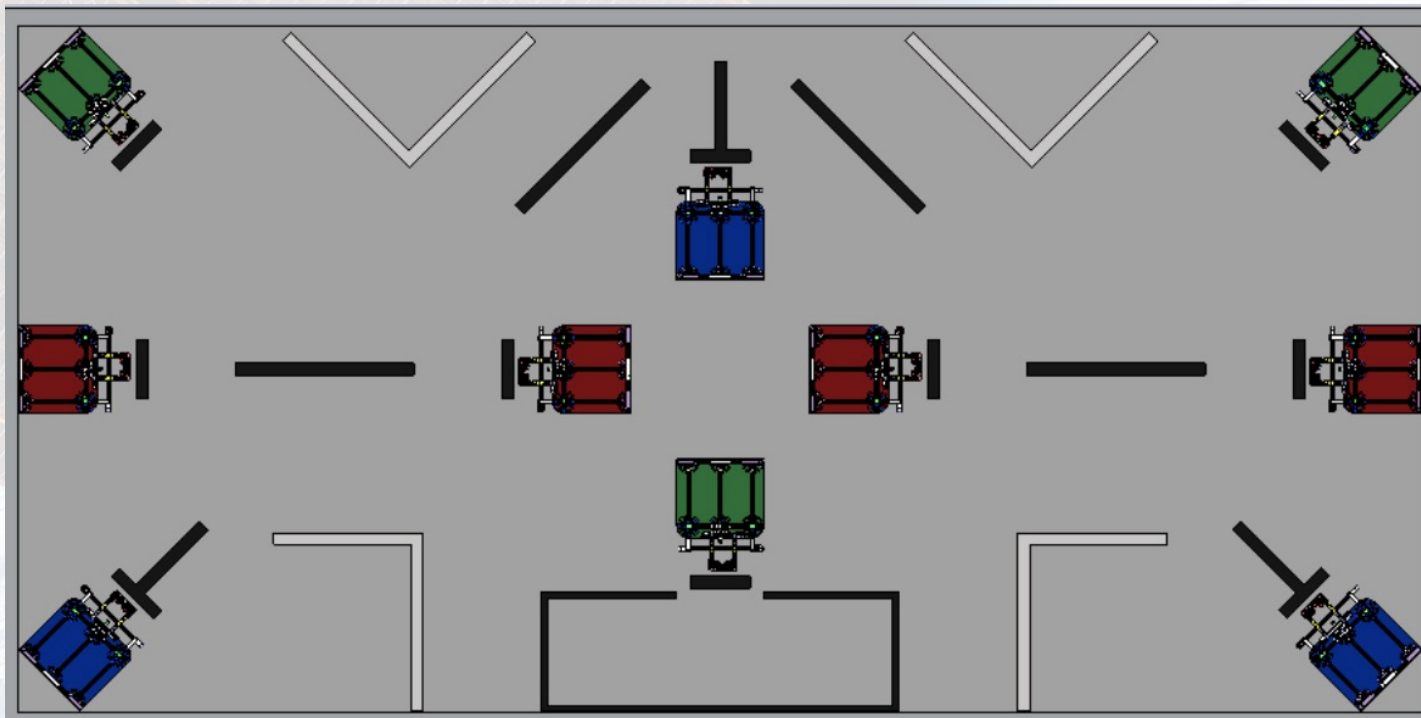
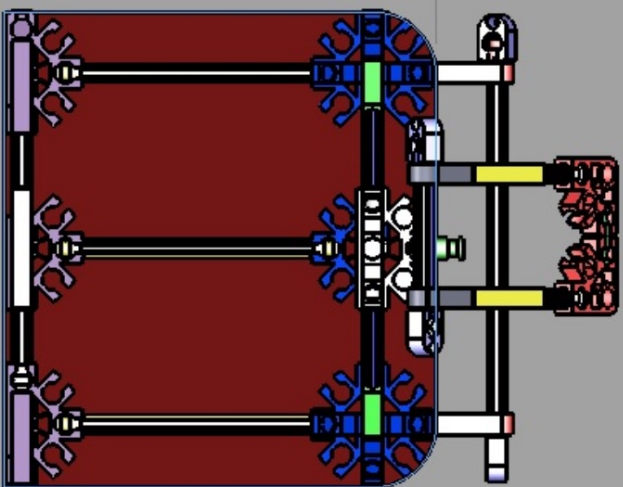
- The game is played on a table that is 93 inches (2.36 m) by 45 ¼ inches (1.15 m).
- The size of the Start Zone is 23 ½ inches (60 cm) by 7 ¾ inches (20 cm).
- Inside the field are 4 obstacles that make access to some of the kickers more difficult. These objects can be detected and avoided by the use of sensors on the robot.
- The height of the walls is 3 ½ inches (90 mm).
- In the field, there will be black lines that will help your robot get to the kickers.
- To help the robot approach the flag for activation, there is a black line that is 2 ½ inches (6.5 mm) from the kicker. The length of the line is 4 inches (100 mm) and the width is 3/4 inches (20 mm).







ASOCIACIÓN AMERICANA DE  
**ROBÓTICA**  
Y TECNOLOGÍA A. C.







ASOCIACIÓN AMERICANA DE  
**ROBÓTICA**  
Y TECNOLOGÍA A. C.

