



ESTELLA 2.0

Inspiring Students, Creating Leaders



GRIP AND SHIFT



"Robots mastering the art of precise delivery."

Day 1: Qualifiers

Day 2: Finals

Categories

Young Innovators (Grades 6-8)

Youth Innovators (Grades 9-12)

**The Millennium School
Sector 119, Noida**

201305

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PROBLEM STATEMENT

Develop and maneuver a custom-built robot to swiftly lift or drag objects and deliver them to their exact targets in a high-stakes race against the clock!

BOT SPECIFICATIONS

- The bot must be powered only by an electrical motor mechanism. Fuel-based cars are strictly prohibited.
- Maximum bot weight for Young Innovators: **2 kg**
- Maximum bot weight for Youth Innovators: **3 kg**
- Maximum Terminal Voltage: **18 volts**.
- Lead Acid battery is not allowed.
- Teams can use any wireless communication method.
- The dimensions of the bot must be less than **30 cm** (length) × **25cm** (breadth) × **20 cm** (height) excluding dimensions of the lifting or dragging mechanism
- The teams can use any lifting or dragging mechanism as long as it is self-designed.

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GUIDELINES & GAMEPLAY

- Young Innovators will use a dragging mechanism to move the block while Youth Innovators will use a lifting mechanism.
- Each team may consist of a maximum of 4 participants
- 1 or more teams may race together. This will be confirmed on day of event.
- Points will be given as per the marking scheme.
- Any robot not moving for 3 minutes will be disqualified.
- Touching the robot is not allowed while the run is going on except if permitted by the organizers.
- The maximum time per run will notified on the day of event. The run will be concluded post that.
- Top Teams on day 1 will qualify for day 2.
- The number of runs a team gets will be notified on the day of event. The best run will be counted.

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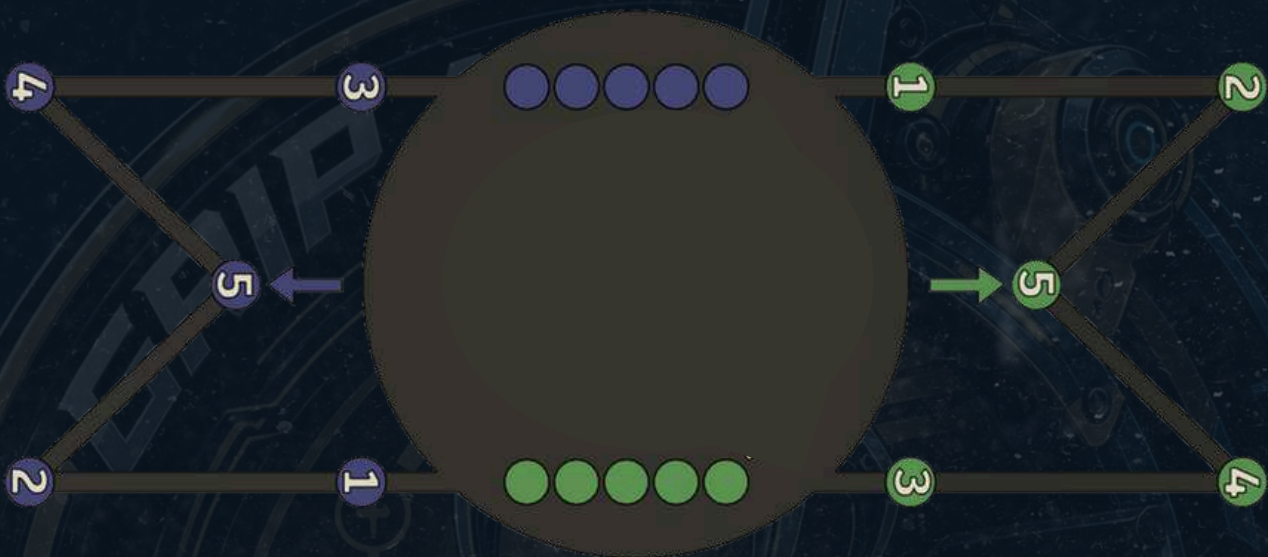


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ARENA



- The teams have to pick up the objects from their spots and place them at their respective drop spots in chronological order.
- The object would be a cube of 3 inches with a weight of less than 200 grams.
- If the object falls midway it will be placed back at its the starting point.
- The diagrams are only given as rough reference and are not drawn to scale.
- The arena is subject to changes.

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MARKING SCHEME

<u>Criteria</u>	<u>Points Given</u>
Object Perfectly Placed	50
Some part outside	40
Some part inside	30

The teams with most points will be ranked above. If multiple teams have the same points, the one with lesser time taken will be ranked above. If there is a tie, a tie breaker will be held.

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DECLARATION

The organizing team has made all efforts to make sure no changes are needed. However, modifications, clarifications or adjustments may be made due to unforeseen circumstances.

Participants are expected to extend full cooperation to the organizers and abide by all instructions communicated .

Any form of disorderly conduct, use of unfair means or intentional attempts to hamper the decorum and smooth conduct of the event shall result in immediate disqualification.

Teacher In-Charge: Mr. Manish Chandra Jha (99106 32320)

Student In-Charge: Varad Bansal (85128 43345)

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