

2026 World GreenMech Regulations Contest



Hosted by:

- King Mongkut's University of Technology North Bangkok
- World Forum for GreenMech Promotion

Co-Organizers:

- PADA Education Co.,Ltd.

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1. Purpose

The 2026 World GreenMech Contest is an engaging engineering challenge organized by the World Forum for GreenMech Promotion. This competition integrates Science, Technology, Engineering, Art, and Mathematics (STEAM) principles to foster learning and innovation. The event features three distinct contests:

- GreenMech (GM)
- R4M (Robot for Mission)
- GreenMech Junior (GMJr.)

Each contest aims to inspire participants in unique ways, encouraging scientific inquiry, creative problem-solving, and a deeper understanding of resource management during project planning. Contestants will showcase their diverse skills, abilities, and creativity in a lively and friendly environment where every contribution is valued.

1.1. Notes on the Regulations:

- This document uses the following abbreviations: GM for GreenMech, R4M for Robot for Mission, and GMJr. for GreenMech Junior. The term "Organizer" refers collectively to the entities responsible for organizing these contests.
- All times and dates adhere to the standard US system (MM/DD/YYYY) and the 24-hour clock.

2. General Information

2.1. Summary of Events

Contest	GreenMech (GM)	R4M	GMJr. Science	GMJr. Programmer
Participant Selection	Full-time students in grades 1-12, divided into three groups: (i) elementary, (ii) junior high, and (iii) senior high school.	Full-time students in grades 1-12, divided into three groups: (i) elementary, (ii) junior high, and (iii) senior high school.	Kindergarten and full-time students in grades 1-4 (born between Aug 1, 2015, and July 31, 2020).	Kindergarten and full-time students in grades 1-4 (born between Aug 1, 2015, and July 31, 2020).
Team Size	3 to 4 people	3 to 4 people	2 people	1 to 2 people
No. of Instructors	1 to 3 people	1 to 3 people	1 person	1 person

Remarks:

- Participants must be students in education until June 4, 2026.
- For rules governing player replacement, see Section 2.2.
- Instructors can be teachers or parents.

2.2. Player Replacement

In the event of a player's unforeseen absence, the team leader may apply for a replacement. Each team is limited to replacing up to 50% of its original registered players. Applications for replacement must be submitted before July 12, 2026.

2.3. Prohibition of Cross-Group Registration

To prevent disputes, cross-group registration is strictly prohibited. Each contestant is permitted to participate in only one event.

2.4. Enrollment & Qualification

- Teams from all countries are welcome. Enrollment through national organizations is strongly recommended.
- Local and national organizers in each country will be responsible for their respective areas.

2.5. Event Schedule

Event	Date & Time	Location
Online Registration	06/08/2026 08:00 – 06/11/2026 17:00 (UTC+8, Taipei)	
Admission Announcements	06/19/2026	
Contest Date	08/08/2026 (GM, R4M) 08/09/2026 (GMJr.)	Address: No. 9, Banglen Subdistrict, Bangyai District, Nonthaburi Province, Thailand Venue: 4,000-seat gymnasium building Website: https://www.srisongchai.com/EN/portfolio-detail/gymnasium.html

2.5.1. Registration Deadlines

Registration must be completed within the specified online registration period; no extensions will be granted. Deadlines are uniform for both independent applications and regional qualifying events.

3. Information for Applicants

3.1. Registration Information

Participation must be completed within the online registration window (June 8– June 11, 2026). International teams are strongly recommended to take a screenshot of their individual registration page before July 11. This screenshot may assist with international travel and visa applications to the host country and will not be available after the specified date.

3.2. Naming Guidelines for Teams, Schools, and Contestants

- **Team Names:** Must be in English, limited to 30 characters (including spaces). In case of duplicate names, priority will be given on a first-come, first-served basis, requiring the second applicant to choose a different name. Names must not contain any indecent or suggestive content. The Organizer reserves the right to request a team to change its name.
- **School & Contestant Names:** Recommended to be limited to 60 characters (including spaces) and must also be free of inappropriate or suggestive language.

3.3. Registration Fees (Non-refundable)

- **GM, R4M: USD 120** per team. Each contestant receives a T-shirt, a commemorative medal.
- **GMJr.- Science: USD 120** per team. Each team receives a Gigo #1261 Scientific Tour set. Each contestant receives a T-shirt, and a commemorative medal.
- **GMJr.- Programmer: USD 120** per team. Each team receives a Gigo #7442-A "Coding & Robotics: Challenge Pack 1." Each contestant receives a T-shirt, and a commemorative medal.
- All fees can be paid online during registration.

3.4. Up-to-Date Information

For the latest information and announcements, please regularly check the event website. Contestants are responsible for staying informed.

4. Venue Regulations

4.1. Identity Check

4.1.1. Submission of Proof of Enrollment

All contestants must present valid proof of student enrollment during check-in. Acceptable documentation includes:

- A completed Certificate of Student Enrollment (see Section 11.1) with a recent photograph and official school stamp.
- A photocopy of a student ID card bearing the student's photograph.
- A graduation certificate for recent graduates.

4.1.2. Onsite Check-In Procedure

- Check-in takes place at each team's assigned competition table.
- During check-in, contestants must wear the official event T-shirt and affix the provided team sticker to the left sleeve.

4.1.3. Missing or Incomplete Documentation

If valid identity documentation is not provided, the contestant will be photographed for future verification. In the event of a dispute, the contestant must provide valid proof upon request.

4.1.4. Eligibility for Awards

Only contestants who submit complete and verified proof of enrollment will be eligible for awards and prizes.

4.2. On-site Facilities

Contestants are provided with display tables. Teams may bring their own chairs for rest purposes only. Any additional furniture must not obstruct pathways or exits.

4.3. Permitted Materials

Contestants may bring written materials, pictures, video files, and other printed data into the contest area.

4.4. Record Keeping, Videos & Evidence

Participating teams should cooperate with the Organizer to record their project in operation for future reference.

4.5. Appeals Process

4.5.1. General Appeal Policy

Contestants must respect the Organizer's final decisions. Any concerns about a decision must be raised immediately on-site.

4.5.2. Appeal Process by Event

- **GreenMech (GM) Basic & Advanced Divisions:**
 - Verbal Appeal: Inform a judge or staff member to be connected with the Chief Judge.
 - Written Appeal: If a verbal appeal is unresolved, obtain and submit a written appeal form at the information desk before the final group in your division finishes scoring.
- **R4M Basic & Advanced Divisions:**
 - After each match, teams must sign on a tablet to confirm their score and sign a "Competition Reminders / Appeal Form."
 - If you have an appeal, write the details on the form. If not, check the "No appeal matters" box. Once signed, no further appeals will be accepted.
- **GMJr. Science & Programmer Divisions:**
 - Each team will receive a "Chief Judge's Reminders / Appeal Form." After the match, an assistant judge will guide you to your table to sign the form (either by detailing an appeal or checking "No appeal matters"). Translators will be available for language assistance.

4.6. Access Restrictions

During the contest, team leaders or parents are not permitted to enter the contest area or pass anything to contestants. Violators will receive a 5-point deduction. Parents and instructors must leave the competition venue after 8:00 AM. Instructors and parents are prohibited from entering the venue to film, as this may disrupt the competition.

4.7. Interference and Fairness

Teams must not disrupt or affect other teams in any way. If a team continues such behavior after being warned, violators will receive a 5-point deduction from their total score. Instructors and parents are not allowed to communicate with participants. A first offense will result in a verbal warning, and a second offense will result in a deduction of points from the team's total score.

4.8. Communications & Communication Devices

Contestants shall not speak to or exchange information with any non-contestant. Violators will suffer a 5-point deduction. In distress, contestants should contact event services for assistance.

4.9. Theft or Sabotage

In the event of theft or sabotage, the offending team will receive a minimum punishment of a 5-point deduction if the claim is verified.

4.10. Check-In Delay Guidelines

If a team is late, they may still participate upon arrival, but no time extensions will be granted.

5. Awards

5.1. World GreenMech Awards (GM Basic & R4M Basic)

Position	Prizes	Number of Awards
Gold Medal (1st place)	Award certificate, USD 330 cash, one Trophy	One team per division
Silver Medal (2nd place)	Award certificate, USD165 cash, one Trophy	One team per division
Bronze Medal (3rd place)	Award certificate, USD 80 cash, one Trophy	One team per division
Honorable Mention	Award certificate	Top 50th percentile (excluding medal winners)
STEAM Overseas Educational Contribution Award	Award certificate	For overseas countries

5. 2. World GreenMech Awards (GM Advanced & R4M Advanced)

Position	Prizes	Number of Awards
Gold Medal (1st place)	Award certificate, USD 660 cash, one Trophy	One team per division

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Silver Medal (2nd place)	Award certificate, USD 330 cash, one Trophy	One team per division
Bronze Medal (3rd place)	Award certificate, USD 160 cash, one Trophy	One team per division
Honorable Mention	Award certificate	Top 50th percentile (excluding medal winners)
STEAM Overseas Educational Contribution Award	Award certificate	For overseas countries

5.3. GreenMech Junior Contest Award (Jr. Science & Jr. Programmer)

Position	Prizes	Number of Awards
Gold Medal	Award certificate, one product prize per participant, one Trophy	One team per division
Silver Medal	Award certificate, one product prize per participant, one Trophy	Two teams per division
Bronze Medal	Award certificate, one product prize per participant, one Trophy	Three teams per division

Honorable Award	Award certificate	Top 50th percentile (excluding medal winners)
STEAM Overseas Educational Contribution Award	Award certificate	For overseas regions/countries

5. 4. Award Revision

The Organizer reserves the right to adjust prize schedules. The number of awards may be based on the total number of registered teams.

5. 5. Award Distribution

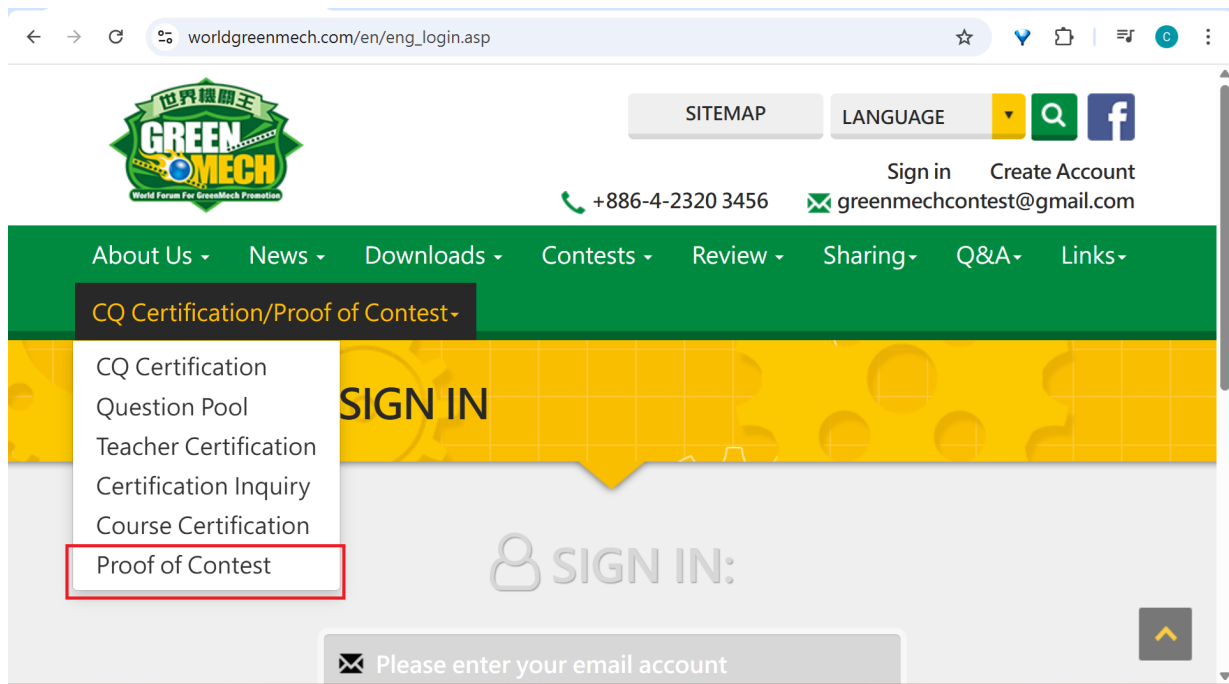
Medal winners will be announced at the award ceremony. Award certificates will be distributed approximately 30 minutes after the ceremony, time permitting. Teams that do not collect their certificates on the day of the contest may be charged a mailing fee. However, if award certificates cannot be distributed within approximately 30 minutes after the ceremony, the co-organizer will cover the mailing costs.

- **Note:** Parents and instructors are not permitted in the competition venue during the event but may enter for the award ceremony.

5.6. Competition Certificates

All contestants will receive downloadable digital certificates two business days after the event. Go to the World GreenMech website, follow the steps below to download your Proof of Participation or Proof of Coaching for the 2025 World GreenMech Contest:

1. In the second row of the main menu, click "CQ Certificate / Proof of Contest".
2. Select "Proof of Contest."
3. After logging in, you can view and download the 2025 World Contest Proof of Participation or Proof of Coaching associated with that account.
4. If your team consists of 3 contestants and 2 instructors, you must log in to each of the 5 individual World GreenMech accounts to download all Proof of Participation and Proof of Coaching documents for the entire team.



5. 7. Awards Delivered by Mail

If certificates are distributed on-site, teams must collect them by 6:40 PM on the contest day. Uncollected certificates will be mailed for a fee of USD 3 per school.

- Merit certificates will be sent within one month. Incorrect personal information will incur a replacement cost of USD 7 per certificate.

5. 8. Winning Team Obligations

- A 20% withholding tax will be applied to prizes for non-residents of the organizer's country.
- Winning teams must provide their models for filming within one month of the competition for promotional purposes. Cash prizes will be transferred after the video is provided.
- **Video Naming:** 2026_Contest Name_Group_School_Team Name (e.g., 2026_GM Basic_Harry Elementary School_Super Man)
- **Video Content:** Total length not to exceed 5 minutes.
 - **GM:** Must include partial operation clips of each device (with text labels indicating the device sequence and the scientific principle), videos showing the interconnections between devices, and a full view of the project.

- **R4M:** Must include a detailed introduction to the robot's structure and a 2-3 minute overview of the mission completion.
- **Video Format:** Google Drive link (1920 * 1080 MP4)

6. Legal Policy

6. 1. Contestant Insurance

The Organizer will purchase group insurance for all contestants, covering only the day of the contest. Accurate personal information is required for the insurance to be valid.

6. 2. Intellectual Property Rights (IPR)

Team leaders must confirm that their work is original and does not infringe on any patents or intellectual property rights. If a contestant needs to use another person's IPR, they must submit a letter of authorization.

6. 3. Organizer's IPR

All competing teams shall grant their project's IPR to the Organizer. The Organizer is entitled to revise, photograph, publish, and exhibit the created works for publicity purposes. Winners should cooperate by providing pictures and documents if the Organizer needs to develop derivative designs.

7. GreenMech (GM) Contest Rules

7.1. Notice

- 7.1.1. This year's elementary school, junior high school, and senior high school are divided into "Basic group" and "Advanced Group".

7.2. Work Specifications

- 7.2.1. **Work Size:** The base area of the entire project for the GreenMech Basic category is 150 cm × 40 cm, and for the GreenMech Advanced category is within 180 cm × 60 cm. Height is unlimited. Any portion of the project exceeding the base area within the first 100 cm of height must remain within the base boundaries. If the team fails to correct violations after being reminded, 5 points will be deducted from the total score.
- 7.2.2. **Work Materials:** Participating teams must bring unassembled GreenMech parts. The materials used must be certified as safe and non-toxic by national-level certifications, as follows: CE (Europe), ASTM (United States), ST (Taiwan), CCC (China). If uncertified materials are brought for assembly, and reported and verified, points will be deducted or participation and award eligibility will be revoked depending on the severity of the situation. Participating teams are also responsible for properly safekeeping their parts to prevent loss.
- 7.2.3. **Additional Materials:**
- (1) Teams of the Basic group may use additional materials, but they must be prepared and processed on-site, so it is recommended that teams avoid using additional materials. Teams of Advanced Group, on the other hand, have no such limitations. Teams may carry un-processed materials and recycled materials such as cardboard, wood, cans, and bottles to augment their projects.
 - (2) Remote or programming control is not permitted for devices. Violation of this rule will result in a 5-point penalty.
 - (3) All electronic products including mobile phones, tablets, laptops, etc., are not recommended for use in projects. Teams using such devices will not be granted any bonus for including them.
 - (4) This GreenMech Advanced category allows the use of 3D-printed and laser-cut parts. Each part must be within 4 cm × 4 cm × 4 cm and remain as individual pieces (not yet assembled). Non-compliant parts will result in a 5-point deduction.
- 7.2.4. **Material Safety:** The use of dangerous items in work materials is strictly prohibited, such as: fire, corrosive chemicals, dangerous electrical components, biological substances, and items that may cause discomfort to personnel. If brought into the venue without permission and verified, the team will be immediately disqualified.
- 7.2.5. **Power Supply Restrictions:** To ensure the safety of participants, the competition venue will not provide any power. All participants must bring their own batteries. The voltage limit for each battery must be

less than 5V. The total voltage after batteries are connected in series must not exceed 15V to ensure the safety of participants. If reported and verified, 5 points will be deducted from the total score, and immediate improvement is required. If this affects the team's score, the team will be solely responsible. This competition prohibits the use of lead-acid batteries, uninterruptible power supply (UPS), and other large dangerous batteries. If reported and verified, 5 points will be deducted from the team's total score. If battery damage or improper operation causes physical injury to participants, the team will be disqualified, and all consequences will be the responsibility of the team using them and their instructors.

7.3. Elementary, Junior High, and Senior High School Groups - Basic Group Rules

7.3.1. Competition Process (Half-day competition, 90 minutes for creation)

Check-in	Material Inspection	Opening Ceremony & Rules Explanation	Production Time	Scoring
07:40 ~ 08:20	08:00 ~ 08:50	08:50 ~ 09:00	09:00 ~ 10:30	10:30 ~ 12:30

7.3.2. Competition Design: Design 8 basic devices and 1 designated device , and complete the linkage of the work.

7.3.3. Material Restrictions: The device design must not use materials related to electric motors.

7.3.3.1. It is encouraged to use Gigo blocks exclusively for device design. If everyday objects (paper, wood, styrofoam, etc.) are to be used, they must be in component or unprocessed form and processed (cut, assembled) on-site during the competition for use in devices. Prior processing, gluing, or assembly before bringing them to the competition venue is not allowed. During inspection, if everyday objects do not comply with regulations, they may not be used in the competition.

7.3.3.2. During scoring, if the materials used do not comply with the regulations, the score for that specific device will not be counted.

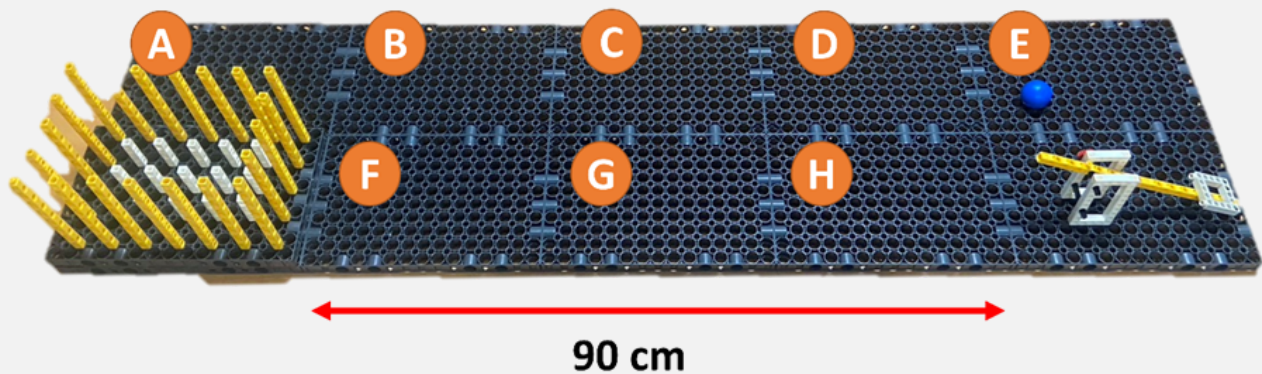
7.3.4. Work Scope: Design the contraption within a base of 10 JUMBO BASE GRID arranged into a 150 cm × 40 cm area.

A	B	C	D	E
Target Area	F	G	H	Launcher

Content of Device

Content of Basic Devices

1. Design regular devices for each of the A-H areas, for a total of eight devices. The 1-8 sequence is self-defined, and there are no limits on the content design (all devices can be made the same) . However, the device body must be located within the designated area, and there are no size restrictions for the devices.
2. Devices must be affixed with labels 1~8.



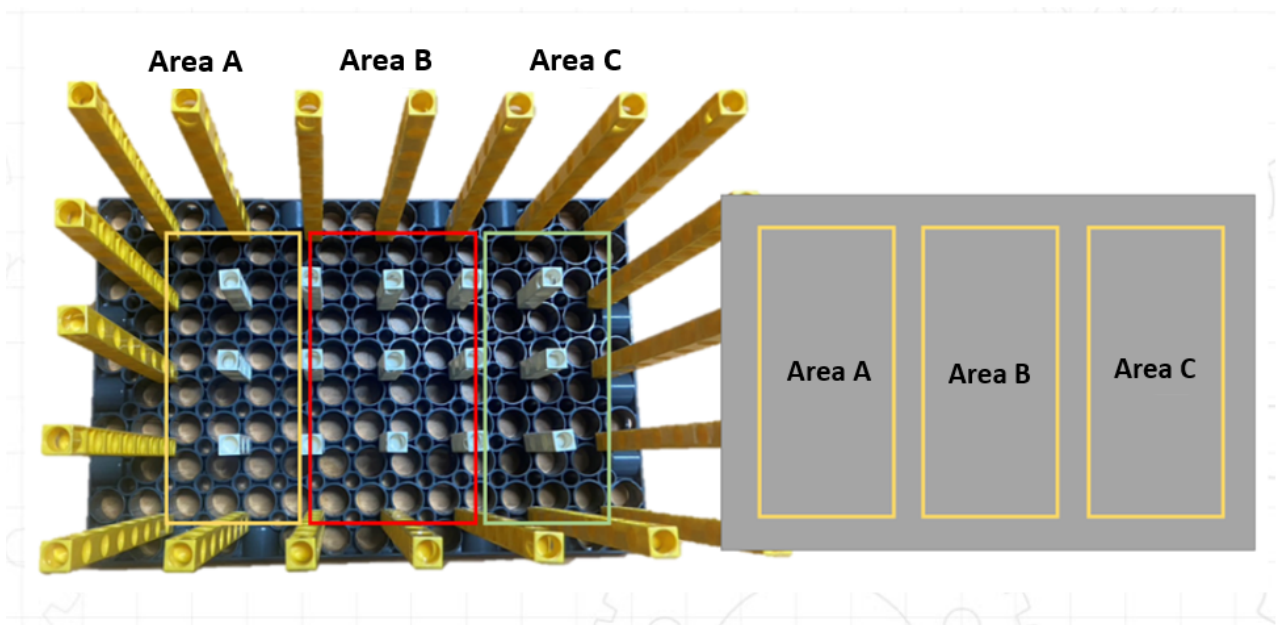
Designated Device

1. Self-made target area to be installed in the lower-left corner of the work.
2. Self-made ball launching device to be installed in the lower-right corner of the work.
3. Contestants must bring their own 6 Gigo 40mm BALLs (7330-W11-M1B).
4. The ball launching device must be triggered by a device to release 2 Gigo 40mm BALLs into the target area at a time, for a total of three operations.
5. After the smoothness scoring (including the first launch), the balls will not be removed. Revert to the last action of the previous device and trigger automatic ball launching for the next launch. After three launches are completed, the total landing score will be recorded.

7.3.5. Scoring Criteria

Scoring Aspect													
Smoothness (30 points)	Manual intervention or dropping results in a 2-point deduction (to be weighted with the number of devices).												
Number of Devices (16 points)	2 points per device. 1. Device settings must comply with specifications. 2. Device labels must be affixed.												
Designated Device (54 points)	The target area must be correctly placed in the lower-left corner of the work; if the target installation location does not comply with regulations, the designated device will not be scored. Compliance with not touching any objects or devices (3 points). 1. Automatic launch (2 points). 2. Horizontal projection distance greater than 90 cm (2 points). 3. Compliance with not touching any objects or devices (3 points). 4. Score, according to the ball location: <table border="1"> <tr> <td>Area A</td><td>5 points</td></tr> <tr> <td>Area B</td><td>4 points</td></tr> <tr> <td>Area C</td><td>3 points</td></tr> <tr> <td>Touching the target area when falling but not in ABC area</td><td>2 points</td></tr> <tr> <td>Not touching the target area when falling</td><td>0 points</td></tr> <tr> <td>Balls stacking on top of other balls or landing on a 5 HOLE ROD</td><td>additional 1 point.</td></tr> </table> (Notes: Meeting the automatic launch requirement earns 2 points, meeting the 90 cm requirement earns 2 points, and meeting the no-touch requirement earns 3 points, for a total of 7 points. If all three attempts meet these conditions, the team earns 21 points. Placing all six	Area A	5 points	Area B	4 points	Area C	3 points	Touching the target area when falling but not in ABC area	2 points	Not touching the target area when falling	0 points	Balls stacking on top of other balls or landing on a 5 HOLE ROD	additional 1 point.
Area A	5 points												
Area B	4 points												
Area C	3 points												
Touching the target area when falling but not in ABC area	2 points												
Not touching the target area when falling	0 points												
Balls stacking on top of other balls or landing on a 5 HOLE ROD	additional 1 point.												

	balls in the 5-point zone earns 30 points, and stacking three balls grants an additional 3 points, for a combined total of 54 points.)
Tie-breaking Order	Smoothness > Designated Device> PK Match
PK Match	If the top three teams cannot be ranked after tie-breaking, a PK match will be held. 1. Tied teams will participate in a ball launching competition. Each team triggers one launch, and the team with the higher score wins. 2. If teams are still tied after the PK match, the balls will be removed, and another launch will be conducted, and so on, until a ranking is determined.



7.4. Elementary, Junior High, and Senior High School Divisions - Advanced Group Rules Explanation

7.4.1. Competition Process (Full-day competition, 160 minutes for creation)

Check-in	Material Inspection	Opening Ceremony & Rules Explanation	Production Time	Scoring
07:40 ~ 08:20	08:00 ~ 08:50	08:50 ~ 09:00	09:00 ~ 11:40	13:00 ~ 16:30

7.4.2. Competition Design: Design 4 scientific devices, 3 green energy devices, and 1 creative device, totaling 8 devices, and complete the connection between the devices.

7.4.3. Device Content:

7.4.3.1. Competition Theme: The overall work theme can be freely created and expressed.

7.4.3.2. Creative Device Theme: The concept of environmentally friendly and energy-saving living is highly valued. Bicycles have become a favorite of the new era due to their "three lows" charm: low carbon, low energy consumption, and low pollution. Please use bicycles as the theme for the creative device, exercise your creativity, and create a unique work.

7.4.4. Work Configuration Diagram: The device order is to be designed and planned independently.

- Device labels 1-8 must be affixed, and "Creative Device" or "Green Energy Device" must be noted on the respective labels.
- Device operation must follow the device label numbers in sequential order.
- Only scientific devices require scoring for scientific concepts.
- Green energy devices must not be placed as the 1st or 8th device.

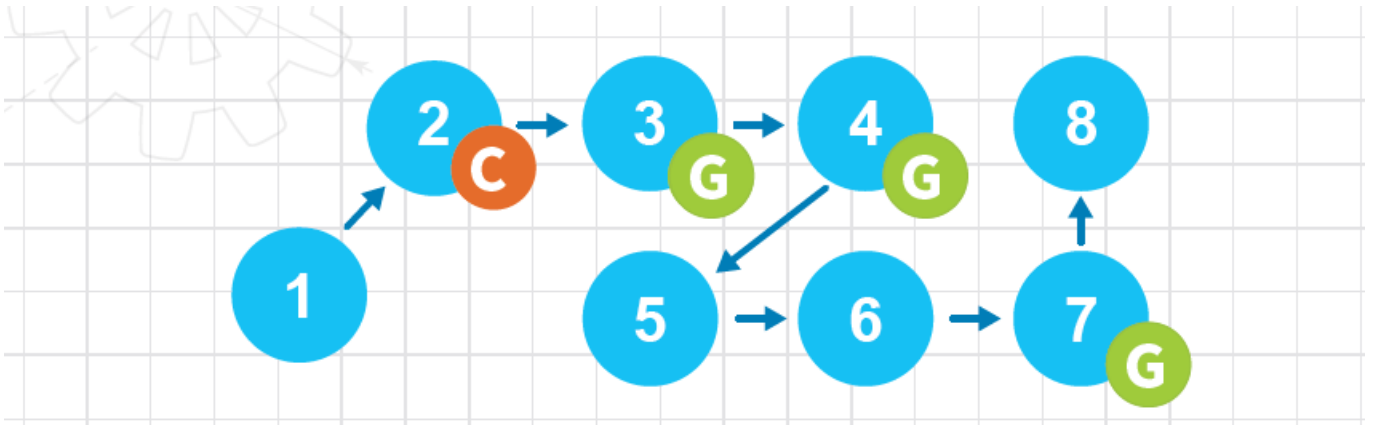


Figure 1. Work configuration chart showing devices and labels. Orange C indicates a Creative Device, Green G indicates a Green Energy Device.

7.4.4.1. Scoring Criteria

Scoring Aspect	
Smoothness (20 points)	Manual intervention or dropping results in a 2-point deduction (to be weighted with the number of devices).
Total Number of Devices (16 points)	Affixing device labels on the devices earns 2 points per device, for a total of 8 devices. Excess devices or devices without labels will not be scored.
Scientific Concept (16 points)	4 scientific devices. Each scientific device must include and comply with 2 scientific concepts, totaling 8 scientific principles.
Green Energy (24 points)	3 green energy devices. The types of green energy used must not be duplicated.
Creative Device (16 points)	1 creative device, with bicycle as the design theme.
Overall Contraption Design (8 points)	The overall work theme is a free creative design.
Tie-breaking Order	Smoothness > Number of Devices > Green Energy > Scientific Concepts > Creative Device > Overall Contraption Design.

7.4.4.2. Scoring Considerations

Scoring Considerations	
Smoothness (20 points)	Smoothness and the number of devices will be weighted for scoring. A unified fine-tuning period of 5 minutes will be allowed before scoring. Scoring will begin upon the judges' signal. Contestants must sign to confirm after scoring.
Total Number of Devices (16 points)	

Scientific Concept (16 points)	Scientific devices and green energy devices will be scored simultaneously. Before scoring, a unified fine-tuning period of 5 minutes will be allowed. Contestants must sign to confirm after scoring.
Green Energy (24 points)	- There are 4 scientific devices, and each device must include 2 scientific concepts. Scientific concepts must not be duplicated, for a total of 8 scientific concepts. Each concept earns 2 points, with a maximum total of 16 points. - There are 3 green energy devices, with a maximum of 8 points per device. They cannot be placed as the first or last device, and the energy types must not be duplicated. Scoring is based on two parts: - Green energy concept compliance (3 points): If the device design complies with the green energy theme (wind, water, solar, magnetic, chemical energy), 3 points will be awarded. - Operation success (maximum 5 points): Each device has two opportunities for operation: First successful activation of the next device: 5 points. First failure but second success: 3 points. Both attempts fail: 0 points. - Total device score = concept compliance score + operation success score. Example: Concept compliant and first operation successful: 3+5=8 points. Concept compliant but only second attempt successful: 3+3=6 points. Concept compliant but operation failed: 3+0=3 points.
Creative Device (16 points)	The creative device for this competition uses bicycles as an element to demonstrate the concept of healthy living. Please use Gigo block to create a creative device. - Uniqueness: The device has unique features and differs from other teams' devices. - Complexity: The device demonstrates diverse movements and the device design is of higher difficulty. - Thematic relevance: Clearly meets the objective and is well-explained. The content of each device will be scored by dedicated judges. There is a 2-minute preparation time before scoring, and contestants do not need to sign after scoring.
Overall Contraption Design (8 points)	Contestants will orally present the overall work's device design and story in English. There is a 2-minute preparation time before scoring, and contestants do not need to sign after scoring. - Storytelling and overall contraption design (6 points). - English oral presentation (2 points).

7.4.4.3. Scoring Details

Scoring	Weighting	Standards
1. Smoothness	20%	- During scoring, the contestant must briefly explain the operation sequence of devices 1 to 8 to the judges. After the judges confirm, the contraption will operate from the first to the last device. - When the contraption operates, if any object (spheres, moving objects, decorations on the contraption, block parts, etc.) falls outside the work area (60 × 180 cm), it will be considered a fallen object, and 2 points will be deducted. If multiple identical objects fall out of bounds simultaneously, it counts as only one deduction, such as multiple dominoes falling out of range together. If identical objects fall at different times, two deductions will be applied. - The dropping of powder and liquids will not result in deductions. However, if it affects environmental cleanliness or the operation of other teams, it will be handled according to violation regulations. - If the contraption operation within the area stops, it can only be manually restarted with the judge's permission, which will result in a 2-point manual deduction. The manual restart point will be at the point of failure. - If the scientific concept or green energy design represented in a device fails to operate successfully (e.g., a marble intended to be released by a "lever" falls prematurely due to vibration), even if the overall contraption operation does not stop, a manual deduction will still be applied. - The smoothness score is obtained by weighting its score with the number of devices. For example, if the work's score of the number of devices is 14 points, with 2 manual interventions and 1 drop, the smoothness score would be $(20 - 4 - 2) \times 14/16 = 12.25$ points.
2. Total Number of Devices	16%	- Only devices on the main path are counted for the number of devices; branch devices are not included. Participating teams must clearly indicate devices 1-8, including 4 scientific devices, 3 green energy devices, and 1 creative device. - The score of the number of devices is based on affixed labels. Labels 1-8 must be affixed. For creative devices, a "Creative" label must be affixed next to the number. For green energy devices, a "Green Energy" label must be affixed next to the number. Failure to do so will result in a 2-point deduction per device. Please refer to (7.7.2 Device Labels and Green Energy Labels) for device label design.

3. Scientific Concept	16%	1. The application of scientific concepts includes scientific principles, laws, phenomena, and structures. Please refer to the attached Scientific Concepts Table (7.7.1 Scientific Concepts and Mechanical Structure Reference Table) for creation. 2. Each scientific device must include 2 scientific concepts. The scientific concepts within the 4 scientific devices must not be duplicated, for a total of 8 scientific concepts. Each concept earns 2 points, with a maximum total of 16 points. 3. During inspection upon entry, a blank scientific concept form will be distributed. Contestants should self-evaluate by checking the scientific concept table. The forms will be collected by event staff at 11:00 AM. Failure to complete the form will result in this scoring aspect not being counted. 4. If a scientific device has more than 2 scientific concepts designed, contestants should fill in the 2 scientific concepts they wish to present on the self-evaluation form. Only 8 scientific concepts can be checked in total on the submitted self-evaluation form; duplicated or excessive parts will not be scored. 5. Please refer to the Scientific Concept Notes 7.5.
4. Green Energy	24%	The green energies in this competition include five types: wind, water, solar, magnetic, and chemical energy. There are 3 green energy devices in this competition, with a maximum of 8 points per device. Scoring details are as follows: 1. Compliance with green energy content: 3 points. 2. Operation success (two opportunities): ● First successful activation of the next device: 5 points. ● First failure but second success: 3 points. ● Both attempts fail: 0 points. The total green energy device score is the sum of the concept compliance and operation success scores. (For detailed green energy regulations, please refer to 7.6 Green Energy Notes.)
5. Creative Device	16%	1. Uniqueness: The device has distinctive features and differs from other teams' devices (5 points). 2. Complexity: The device demonstrates diverse movements and the device design is of higher difficulty (6 points). 3. Thematic relevance: Clearly meets the objective and is well-explained (5 points), with a presentation time of 3 minutes.

6. Overall Contraption Design	8%	Contestants will orally present the overall work's design concept and story in English. There is a 2-minute preparation time before scoring, and the presentation time is 3 minutes. Contestants do not need to sign after scoring. - English oral presentation: English communication ability (2 points). - Overall contraption design concept and storytelling (6 points).
7. Rule Violations	On-site Deduction System	The following actions are violations: - All devices must not use programming languages or remote control, graphical control, etc., for system operation. If found, 5 points will be deducted from the total score. - Violation of work size regulations will result in a 5-point deduction from the total score. - Messy competition table and environment (e.g., scattered materials, wet floor). If not improved after warning, 5 points will be deducted from the total score. - Disobeying competition discipline or affecting other teams' works will result in a 5-point deduction from the total score; serious cases will lead to disqualification. - Violation of power usage regulations will result in a 5-point deduction from the total score. - Violation of 3D printed parts and laser-cut parts usage regulations will result in a 5-point deduction from the total score.

Remarks: Creative presentation and story explanation do not require promotional materials or other small introductory items, and it is not recommended to prepare extra costumes or props. Creative presentation and story explanation will only be scored based on the device design and the contestant's explanation content.

7.5. Scientific Concept Notes

The design of scientific concepts must comply with the basic principles of hands-on assembly or self-design. Contestants must understand the principles and content of their creation and briefly explain them for the judges' assessment.

1. The scoring of scientific concepts requires that the effect is generated only after the blocks or objects are assembled to earn points. If it is a commercial product or a finished product, and the judges determine that the effect was not produced by self-assembly or design, no points will be awarded for that scientific concept.
2. The 8 scientific concepts must be briefly explained so that the judges can understand them. Each action can only earn one scientific concept score. It is recommended that contestants clearly indicate individual scientific concepts as the main focus when designing devices.
3. Only 8 scientific concepts can be checked on the scientific concept table for scoring. Please choose the 8 scientific concepts you are most confident in. If more are checked, contestants will be asked to remove them. The self-evaluation forms will be collected by the organizer at 11:00 AM and cannot be changed afterward.
4. Each device must include two scientific concepts for scoring. If a device has multiple scientific concepts to choose from, please select the scientific concepts to be judged. Judges will only score based on the scientific concept self-evaluation form and may not change the checked items on the self-evaluation form during scoring.
5. The self-evaluation form has five optional items. Contestants can fill them in according to their work design, up to five, and they must not duplicate items already on the self-evaluation form.

Scientific Concept Judging Examples:

- Activating a light source device, where the light illuminates the designed object, producing optical phenomena such as reflection, refraction, diffraction, etc., can earn an optics concept score. If activating power only turns on an LED light source, only an electricity score will be awarded.
- A small ball rolling down and hitting a bell or a designed object to produce regular or diverse sounds can earn an acoustics score. If activating power only turns on a buzzer, only an electricity score will be awarded. If a linkage is opened to activate a commercial music box that produces music, and the music box is not self-designed and made, only a linkage score will be awarded.

7.6. Green Energy Notes

1. The green energies in this competition include five types: wind, water, solar, magnetic, and chemical energy. Using green energy to drive the device within the device area and successfully activating the next device earns 8 points. Green energy devices cannot be placed as the 1st device or the last device, and the green energy used in these three devices must not be duplicated. The maximum total score for this scoring aspect is 24 points.
2. In the past, the green energy aspect typically awarded points simply for its use. However, most green energy demonstrations failed to meet the required standards. For this competition, the rules stipulate that in addition to highlighting the concept of energy conversion, the green energy must also successfully activate the next device to earn the green energy score.
3. Batteries may not be used for the green energy demonstration.

Wind Energy

Activating a wind-powered device from the previous device, using wind power to drive the designed device in this area, and linking it to activate the next device after operation, completes the wind energy device.

Water Energy

Activating a device from the previous device to make water flow (potential energy difference or pressure difference), using water power to drive the designed device in this area, and linking it to activate the next device after operation, completes the water energy device.

Note: Hydraulic linkages and water buoyancy are part of scientific concepts and are not counted towards water green energy scores.

Solar Energy

Activating a light source from the previous device (simulating solar energy) or allowing light to shine on a solar panel, using solar energy to drive the device operation in this area, and linking it to activate the next device after operation, completes the solar energy device.

Note:

1. *If only the LED lights up and cannot activate the next device, it is considered a failed green energy device.*
2. *As solar panels produce very low current and cannot activate motors, the usual practice is to connect batteries in series as a backup. In this case, the solar panel is only considered to operate as a circuit switch and cannot be used as the primary energy source to drive the device; this is considered a failed green energy device.*

Magnetic Energy

Activating a magnetic device from the previous device, using magnetic energy to drive the designed device operation in this area, and linking it to activate the next device after operation, completes the magnetic energy device.

Note:

- 1. Conversion from magnetic energy to electrical energy or magnetic energy to kinetic energy, such as electromagnetic induction producing electrical energy, or a Gauss rifle accelerating a small ball to trigger the next device, is required to complete the magnetic energy device.*
- 2. Simple magnetic attraction and repulsion are considered part of scientific concepts.*

Chemical Energy

Activating a chemical energy device from the previous device, using chemical energy to drive the designed device operation in this area, and linking it to activate the next device after operation, completes the chemical energy device.

Note:

- 1. This aspect is usually more difficult to achieve. Taking a fruit battery as an example, to truly power an LED, at least three sets of fruit batteries in series are required, let alone driving a motor or other devices. The usual practice is to connect batteries in series as a backup. In this case, the fruit battery device is just an on-off device and does not genuinely use chemical energy.*
- 2. Rechargeable batteries are not considered an application of chemical energy in green energy.*

7.7. Appendix for GreenMech

7.7.1. Scientific Principles Reference Table

Scientific Principles Reference Table					
Item	Device Number (Contestant Evaluation)	Judge Evaluation	Item	Device Number (Contestant Evaluation)	Judge Evaluation
Law of Inertia			Connecting Rod (Linkage)		
Force & Acceleration (Gravity Potential)			Truss		
Action and Reaction			Chain Gear / Transmission		
Center of Mass			Domino Effect Track		
Leverage			Ratchet & Pawl		
Circular Motion& Centripetal Forces			Acoustics		
Pascal's Principle			Electricity		
Communicating Vessels			Thermology		
Bernoulli's Principle			Magnetism		
Wheel and Axle			Elasticity		
Pendulum			Friction		
Static Electricity			Buoyancy		
Worm Screw Worm Gear			Other (to be completed by contestants)		
Capillary Action / Siphon			Other		
Pulley			Other		
Cam			Other		
Gear or Rack			Other		
Note 1: The table may not be arbitrarily added to or modified. You may only fill in your own designed scientific concepts in other designated sections. Note 2: Scientific concepts and green energy may not be double-counted. You may only select and fill in 8 scientific concepts. If you exceed this limit, please choose which ones to remove. Note 3: Only a single option may be entered for the device number. You may not enter multiple device options. If you exceed this limit, please choose which ones to remove.					

7.7.2. Device Labels & Green Energy Labels (for both Basic Group & Advanced Group)

Device labels and green energy labels should be clear and easily visible. They can be printed in black and white.



8. Robot for Mission (R4M) Rules Explanation

R4M Schedule		
Time	Item	Remarks
07:40 ~ 08:20	Check-in	1. After check-in, contestants should enter the venue and not leave until the event has concluded. 2. After 08:00, only contestants may be in the venue. Team leaders and parents/guardians are not permitted after this time.
08:00 ~ 08:50	Materials Inspection	1. Team leaders shall stay in their assigned areas after 08:00 and shall not enter the competition venue. 2. Judges will carry out a building materials inspection. Blocks may not be assembled in advance. Chains are the only exception to this rule. 3. After passing the materials examination, a label will be applied. Students should then sit at the table and wait without touching the materials. 4. Personal items like bags can be brought into the venue but must be placed on the table in keeping with the inspection record. 5. Contestants need to submit their Certificate of Student Enrollment, see Section 11.1.
08:50 ~ 09:00	Opening Ceremony	Contestants attend the opening ceremony at the designated venue.
	Competition Rules Explanation	Explain relevant competition rules and precautions.

2026 World GreenMech Contest

09:00 ~ 11:00	Assembly Practice Time	
09:30 ~ 11:20	Inspection Time	1. Verify that the chassis does not contain metal parts. 2. Weighing: No chassis weighing before the competition. After the competition, if teams have the same competition time or score, weighing will be conducted for ranking purposes. Basic group weighing includes backup vehicles. 3. After inspection, participating robots (including D automated platform) must be uniformly stored by the organizer. 4. Environmental cleanliness scoring (5 points deducted from total score for scattered parts or mess in the assembly area). 5. Vehicle size reference: Basic Group 8.1.1, Advanced Group 8.3.1. 6. When contestants leave after inspection and robot submission, they must take all items (e.g., laptops, block parts, unused electronic control equipment, etc.) out of the competition venue.
11:20 ~ 12:30	Rest and Meal Time	Please sort lunch boxes and trash appropriately.
12:30 ~ 12:50	Gather and Entry	Failure to enter on time will be considered a forfeiture. Upon entry, contestants may only bring competition laptops, tablets, or mobile phones; no other items are permitted.
13:00 ~ 16:30	Competition Time	
16:30 ~	Award Ceremony	Final results are subject to evaluation. Your understanding is appreciated.

8.1. Robot for Mission (R4M) - Basic Group Work Specifications

- 8.1.1. Work Size: Robots A, B, and C each have a size limit of 30 cm in length × 20 cm in width, with no height limit. If a robot extends beyond these aspects after expansion, it is exempt from this limit, but must be operated via remote or electronic control, not through other external forces. If a judge discovers a robot exceeding the specified aspects before the competition, the team will be reminded to adjust it during the pre-competition preparation time (i.e., 2 minutes entering the competition area and before the official competition). If the adjustment cannot be completed within the designated time, that robot will not be allowed to be used in that competition. If a judge does not discover this situation before the competition, and another team files an appeal after that team's competition has ended, the chief judge will initiate an investigation. If verified, and it is confirmed that the robot's dimensions do not comply with the specifications (e.g., unable to retract to the specified size), and this violation involves breaching the rules, gaining undue advantage, or affecting other teams' scoring rights, then the points already obtained by that robot will be canceled.
- 8.1.2. Number of Robots: Each team must prepare 3 robots (Robots A, B, and C) for the competition. Teams with fewer than 2 robots will be considered to have forfeited. Each team may prepare one extra robot as a spare for replacement. If a robot requires repair, the contestant must raise their hand and obtain judge approval before taking it outside the competition area for repair. Repair and replacement time will be counted towards the competition time, and the robot must restart from the designated area. If the robot has mission items during repair, the items must be placed directly beneath the robot's projection. If the area beneath is a scoring zone, the items must be returned to their initial position. Contestants who manually intervene with the robot or remove it from the competition area without judge approval will receive a verbal warning for the first instance. The second instance will result in a 5-point deduction from the total score for damaging the competition area. Violations can accumulate.
- 8.1.3. Work Materials: Participating teams must bring unassembled Gigo block parts. Rubber bands or cotton strings may be used for mechanical structures or to increase friction, but not for fixing the vehicle body structure. Robot components must not use metal materials. If other materials or non-compliant materials are brought for assembly and verified upon complaint, points will be deducted or participation and award eligibility will be revoked depending on the severity of the situation. Participating teams are also responsible for properly safekeeping their parts to prevent loss. Note: Non-Gigo rubber bands or cotton strings may be used.
- 8.1.4. 3D Printing and Other Processed Parts: For fairness in the competition, robots must be assembled using Gigo block parts. 3D printed, laser-cut, CNC parts, PP sheets, etc., are not allowed for assembly in the competition.

- 8.1.5. Control Equipment and Power Usage: Contestants may freely choose various control methods (e.g., smartphones, tablets, laptops, etc., for controlling the robot). Equipment must be prepared by each team, and no power supply will be provided at the venue. There are no restrictions on the software used. [Aside from the Bluetooth remote control allowed by the organizer, contestants can also choose to use infrared remote control. Note: Using infrared remote control may lead to interference if contestants use the same frequency. If a competition team is maliciously interfered with by another team, upon complaint by the team leader or contestant, the interfering team will be disqualified from the competition.]
- 8.1.6. Power Regulations: The competition venue will not provide any power supply; all participants must bring their own batteries. Robots A and B must comply with the main control box's battery regulations. The use of Size 3 lithium iron batteries, dummy batteries, or any related power sources is prohibited. Robot C should use the Gigo main control box (1269-W85-A1 or 1409-W85-A). The voltage must comply with the main control box's safety regulations, and the use of Size 3 lithium iron batteries, dummy batteries, or any related power sources is prohibited. For safety, the battery must be clearly labeled with its voltage and must have insulation wrapping without any exposed parts. Additionally, batteries brought by participating teams must not cause public harm (e.g., battery rupture, liquid or gas leakage). If a battery causes physical harm to a teammate or another competitor, the team will be disqualified, and all consequences must be the sole responsibility of the individual who caused the incident and their supervising teacher.

Note: This competition prohibits the use of large and dangerous batteries, such as lead-acid batteries.

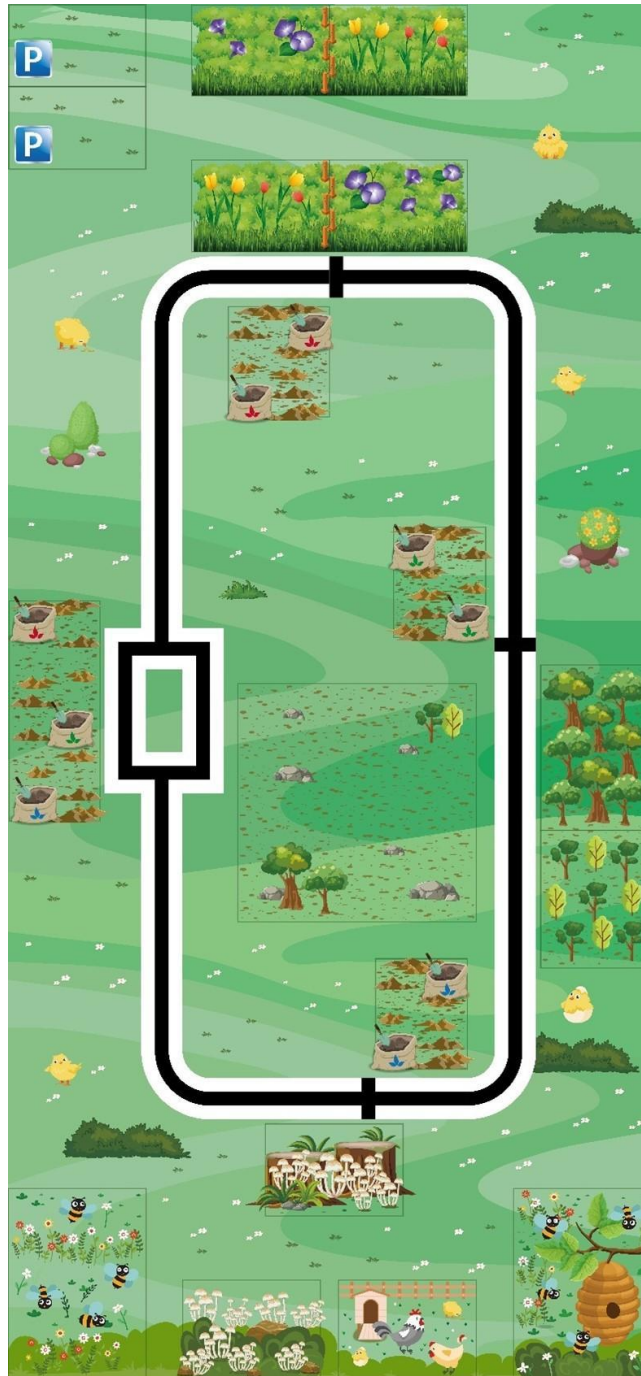
- 8.1.7. Motor Usage Restrictions: The motors used in Robots A and B may not exceed 4. For Robot C, the motors used may not exceed 4. All robots used in the competition may only be connected via block assembly. The use of cable ties, rubber bands, foam tape, double-sided tape, super glue, or other adhesives for connection is prohibited. Cable ties and rubber bands may only be used for managing wiring. After the competition concludes, the organizer reserves the right to ask winning teams to disassemble their work on the spot for verification. If any violation of the rules is discovered, the team's prize will be revoked and awarded to the next team in rank.

- 8.1.8. To ensure fairness, please use the following for the robot motors: 7328-W85-A1-1, 7392-W85-B3, 7392-W85-B1, 7400-W85-A1, 7400-W85-A, 1247-W85-D1-1, 1247-W85-D2, 7447-W85-C, 7412-W85-A, and 1247-W85-D3. For detailed information, please refer to Section 8.12.1 of the appendix, "List of Competition Motors, Main Control Boxes, and Related Component."【If a contestant uses the aforementioned motors but installs a different type of Bluetooth control box to control their robot, whether by modifying the connection between the motor and the Bluetooth box or by independently connecting the motor to other control devices, the competitor must ensure that the connection and control will not result in an unmanageable situation. Should any issues arise at the competition venue, the competitor is responsible for fixing the problem themselves and ensuring the robot successfully completes the mission.】Please use the following product models for the main control boxes: 1246-W85-A1 (C-Gigo SMART CONTROL BOX) 1247-W85-A4 (C-Gigo SMART CONTROL BOX - Wistron) 7408-W85-A2 (C-IR REMOTE RECEIVER) 1269-W85-A1 (Gigo micro:bit CONTROL BOX)1409-W85-A (C-SMART CONTROLLER)
- 8.1.9. Material Safety: The use of dangerous items as work materials is strictly prohibited, such as: fire, corrosive chemicals, dangerous electrical components, biological materials, and items that may cause discomfort to personnel. If brought in privately and verified, the team will be immediately disqualified.
- 8.1.10. Robot Movement Area Restrictions: Since the basic group competition area has no outer barrier, when all four wheels of a robot (if the robot uses other parts instead of wheels, the ground-contacting support structure is considered a wheel) exceed the competition area boundary, it is considered a violation. The first offense will result in a verbal warning, and the second offense will result in a 5-point deduction from the total score for damaging the competition area. Violations can accumulate.

8.2. Basic Group Competition Theme: [Smart Botanical Garden]

8.3. Competition Scenario:

8.3.1. **Competition Area Specifications:** The main competition area size is 140x300 cm (width x length) with a matte oil-based PP photo paper laid flat on top. Each competition area accommodates only one team, and Robot A, Robot B, and Robot C are placed in the designated starting areas and positions.

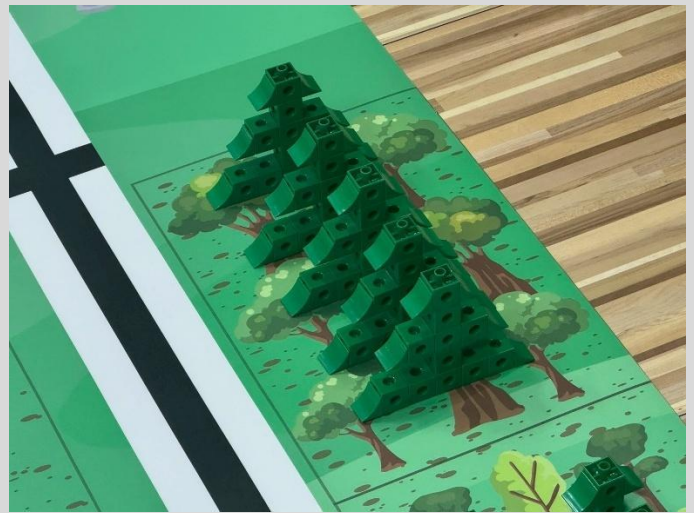


8.3.2. Missions

Diagrams and designated locations for all objects before the mission begins



The images above show the locations for tulips (left area) and morning glories (right area). Placement direction is not limited (cannot be upside down or laid flat), and the range cannot exceed the green frame in the images.



The images above show the locations for large trees. Placement direction is not limited (cannot be upside down, laid flat or connected), and the range cannot exceed the green frame in the images.



The image above shows the locations for small trees. Placement direction is not limited (cannot be upside down, laid flat or connected), and the range cannot exceed the green frame in the image.



The image above shows the locations for mushrooms. Placement direction is not limited (cannot be upside down, laid flat or connected), and the range cannot exceed the green frame in the image.



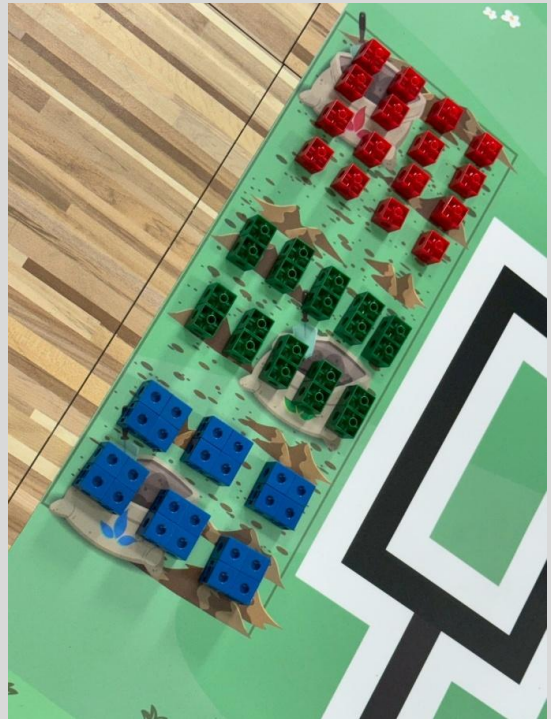
The image above shows the locations for small bees. Placement direction is not limited (cannot be upside down, laid flat or stacked), and the range cannot exceed the green frame in the image.



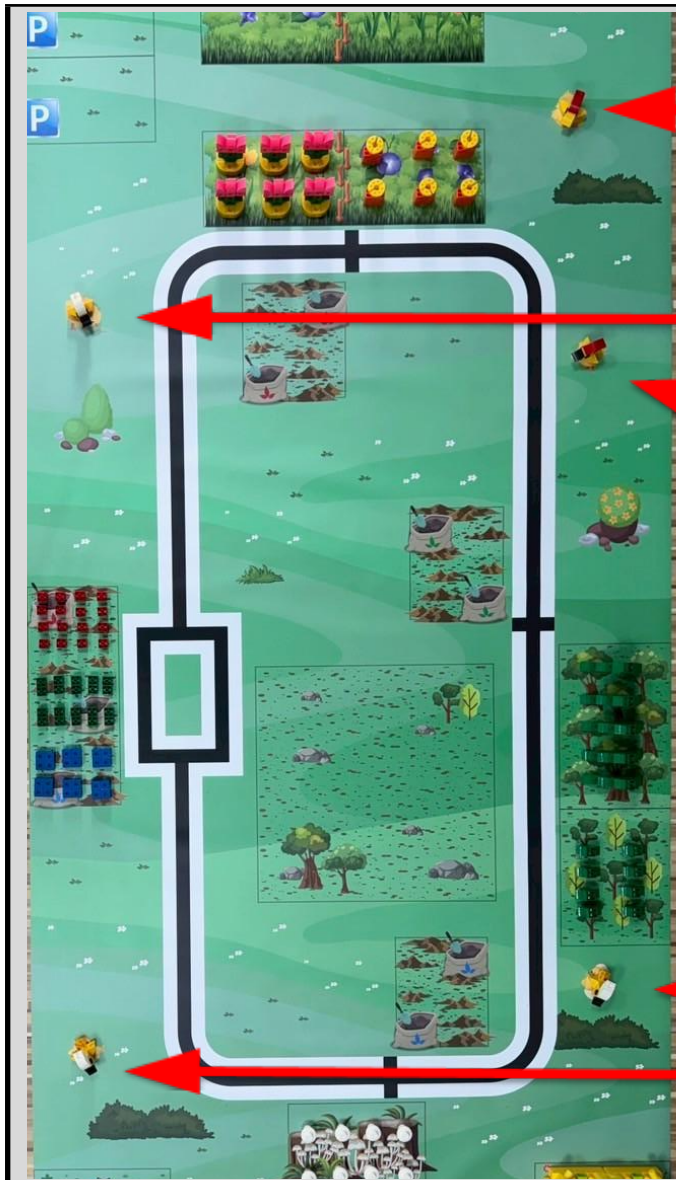
The image above shows the locations of the small bee hive. The bottom of the hive should not exceed the green frame as a principle.



The image above shows the locations of the chicken coop. The chicken coop should not exceed the green frame as a principle.



The image above shows the locations for three types of feed (red, green, blue). Arrangement and direction are not limited, and the range cannot exceed the green frame in the image.



A

B

C

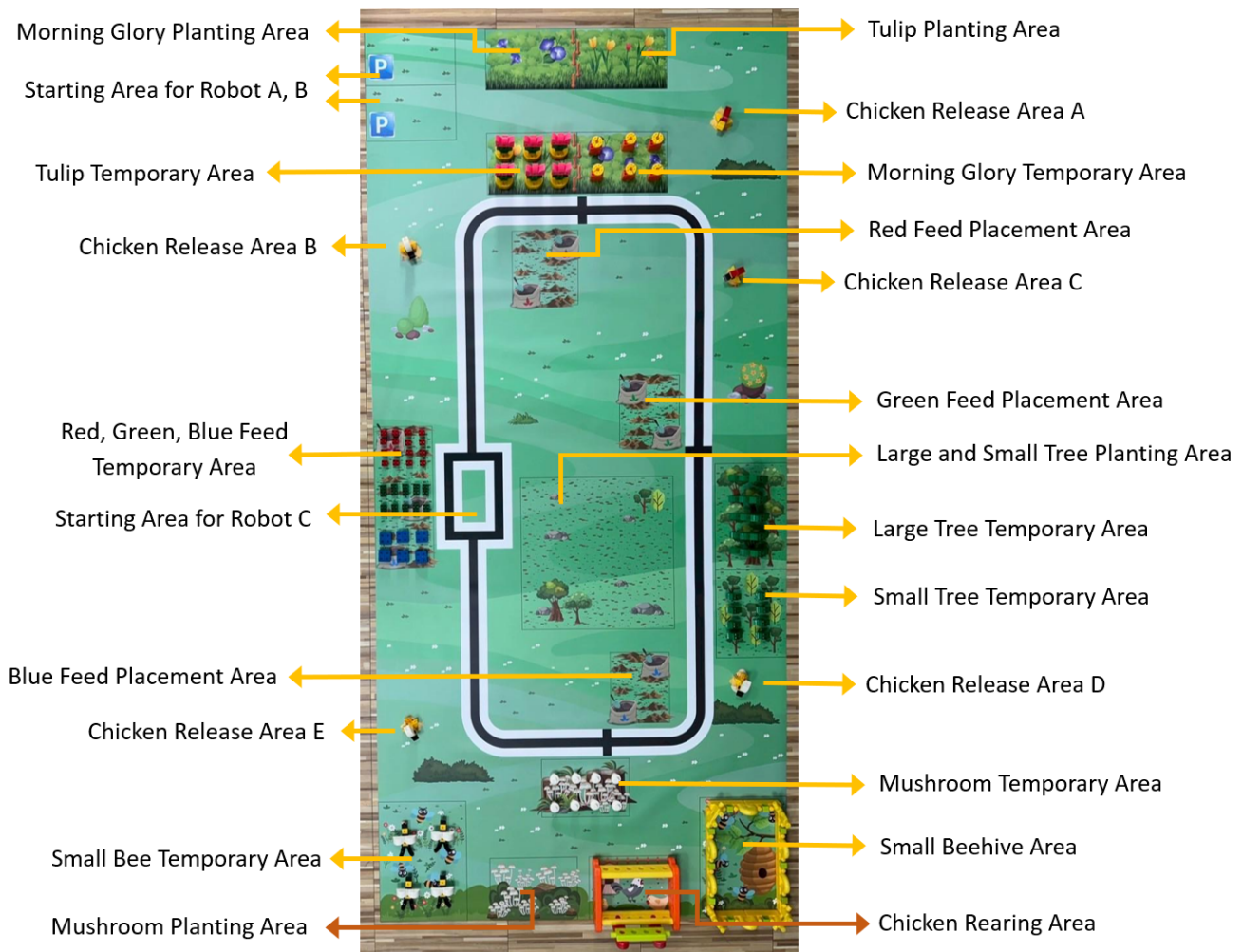
The image on the left indicates the designated spots for temporary chicken location. There are no restrictions on the direction of the chickens (they cannot be inverted or laid flat), but they must be within the boundaries of the chicken illustration on the map. Specifically, Area A is for yellow-beaked, red-headed chickens, Area C is for black-beaked, red-headed chickens, and Areas B, D, and E are for black-beaked, white-headed chickens.

D

E

Smart Botanical Garden Area Definitions

Before the mission begins, Robot A, Robot B, and Robot C (Robot C operates autonomously via programming, not remote control) must be placed in their respective starting areas: Robot A in the A car starting area, Robot B in the B car starting area, and Robot C in the C car starting area (within the outer black-lined boundary). Upon the judge's instruction, which signals the start of the mission, participants may begin.



The colors and patterns of the blocks shown above do not affect the competition rules. Participating teams may make appropriate adjustments during practice.

Competition Missions:

Competition results are based on a mission-based scoring system. Points are awarded for completing missions. The sum of all mission points is the team's total score.

Mission 1:

- Robot A successfully exits the starting area with its entire body: earns an additional 10 points.
- Robot B successfully exits the starting area with its entire body: earns an additional 10 points.
- Robot C successfully exits the starting area with its entire body: earns an additional 10 points.

Mission 2:

- Robot C must be equipped with a C-LINE FOLLOWER SENSOR (1247-W85-B3) or a C-INFRARED SENSOR (1409-W85-D). Relevant specifications are in Appendix 8.10.1. This robot operates via autonomous program control, not remote control. The program can be written, modified, or uploaded by participants on-site during the competition. Robot C travels along the black line and transports three types of feed (red, green, blue) from the temporary storage area to the red feed area, green feed area, and green feed area. The orthogonal projection must be within the designated frame or pattern to earn corresponding points, as shown in the table below. The full score is 600 points.

Mission Type	Mission Item
A	Area color correspondence: 15 points per red feed, total 16 feeds, subtotal 240 points.
B	Area color correspondence: 20 points per green feed, total 10 feeds, subtotal 200 points.
C	Area color correspondence: 10 points per blue feed, total 6 feeds, subtotal 60 points.
D	Area color non-correspondence: 5 points per feed.
E	Complete transporting all 16 red feeds, 10 green feeds, and 6 blue feeds to their corresponding color areas: additional 100 points, total 600 points.

Note 1: If a programming error occurs after Robot C starts, participants can modify the program to allow the programmed robot to complete the mission. Program writing, modification, reading, and execution time are all included in the competition time.

Note 2: The software used for Robot C in this competition is micro:bit. The main control boxes for programming are C-Gigo micro:bit CONTROL BOX (1269-W85-A) and C-SMART CONTROLLER (1409-W85-A). Please refer to Attachment 8.10.1 for main control boxes.

Note 3: The starting direction of Robot C is not limited.

Note 4: If the programming equipment used by Robot C (e.g., laptop, tablet, connecting cables, etc.) or for micro:bit programming requires internet connection, participants must prepare it themselves.

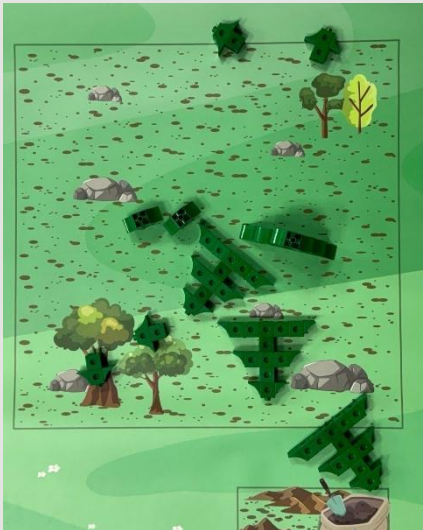
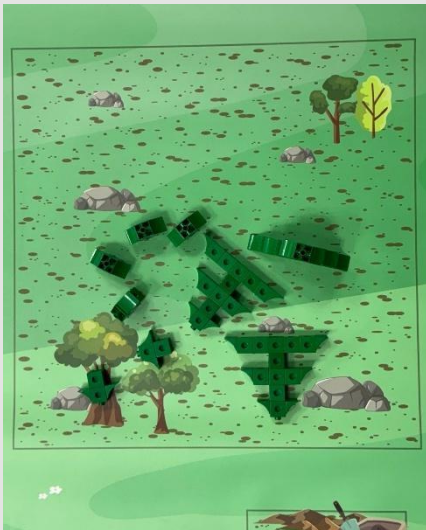
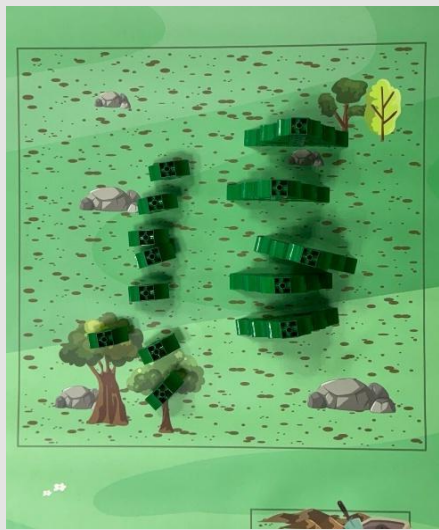
Mission 3:

- Use Robot A and Robot B to transport tulips and morning glories from the temporary storage area to the planting area (orthogonal projection must be within the frame) to earn corresponding points, as shown in the table below. The full score is 350 points.

Mission Type	Mission Item	
A	Transport tulips from the temporary area to the tulip planting area and stand upright: 25 points each. If 6 are completed, subtotal 150 points.	
B	Transport morning glories from the temporary area to the morning glory planting area and stand upright: 25 points each. If 6 are completed, subtotal 150 points.	
C	Transport tulips from the temporary area to the tulip planting area and are inverted: 10 points each.	
D	Transport morning glories from the temporary area to the morning glory planting area and are inverted: 10 points each.	
E	Transport tulips from the temporary area to the morning glory planting area, regardless of upright or inverted: 5 points each.	
F	Transport morning glories from the temporary area to the tulip planting area, regardless of upright or inverted: 5 points each.	
G	Complete transporting 6 tulips to the tulip planting area standing upright AND 6 morning glories to the morning glory planting area standing upright: additional 50 points, total 350 points.	
  		
The image above can earn 350 points. The image above can earn 120 points. The image above can earn 125 points.		

Mission 4:

- Use Robot A and Robot B to transport large and small trees from the temporary storage area to the large and small tree planting area (orthogonal projection must be within the frame) to earn corresponding points, as shown in the table below. The full score is 420 points.

Mission Type	Mission Item	
A	Transport large trees from the temporary area to the large and small tree planting area and stand upright: 20 points each. If 5 are completed, subtotal 100 points.	
B	Transport small trees from the temporary area to the large and small tree planting area and stand upright: 30 points each. If 8 are completed, subtotal 240 points.	
C	Transport large and small trees from the temporary area to the large and small tree planting area and are inverted: 10 points each.	
D	Complete transporting 5 large trees to the large and small tree planting area standing upright AND 8 small trees to the large and small tree planting area standing upright: additional 80 points, total 420 points.	
		
The image above can earn 120 points.	The image above can earn 160 points.	The image above can earn 420 points.

Mission 5:

- Use Robot A and Robot B to transport mushrooms from the temporary storage area to the mushroom planting area (orthogonal projection must be within the frame) to earn corresponding points, as shown in the table below. The full score is 440 points.

Mission Type	Mission Item
A	Transport mushrooms from the temporary area to the mushroom planting area and stand upright: 40 points each. If 8 are completed, subtotal 320 points, additional 120 points, total 440 points.
B	Transport mushrooms from the temporary area to the mushroom planting area and are inverted: 10 points each.

		
The image above can earn 100 points.	The image above can earn 140 points.	The image above can earn 440 points.

Mission 6:

- Use Robot A and Robot B to transport small bees from the temporary storage area to the small bee hive area (orthogonal projection must be within the hive) to earn corresponding points, as shown in the table below. The full score is 320 points.

Mission Type	Mission Item
A	Transport small bees from the temporary area to the small bee hive area: 50 points each. If 4 are completed, subtotal 200 points, additional 120 points, total 320 points (For a score to be counted, the beehive must be touching some part of the green frame before the competition ends. If the beehive is not touching any part of the green frame by the end of the match, it will not be scored and will result in one time damaging the competition area).

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 A LEGO model of a beehive and bees. The beehive is a brown, tiered structure with a black circular entrance at the bottom. It is surrounded by several bees made of black, yellow, and white LEGO bricks. The entire scene is enclosed in a yellow LEGO frame with green square accents. The background is a green wall with a floral pattern.	 A LEGO model of a beehive and bees, similar to the first but with a different arrangement of the bees. The beehive is a brown, tiered structure with a black circular entrance at the bottom. It is surrounded by several bees made of black, yellow, and white LEGO bricks. The entire scene is enclosed in a yellow LEGO frame with green square accents. The background is a green wall with a floral pattern.	 A LEGO model of a beehive and bees, similar to the first but with a different arrangement of the bees. The beehive is a brown, tiered structure with a black circular entrance at the bottom. It is surrounded by several bees made of black, yellow, and white LEGO bricks. The entire scene is enclosed in a yellow LEGO frame with green square accents. The background is a green wall with a floral pattern.
The image above can earn 150 points.	The image above can earn 100 points.	The image above can earn 320 points.

Mission 7:

- Use Robot A and Robot B to transport chickens from the release area to the chicken rearing area (orthogonal projection must be within the chicken rearing area) to earn corresponding points, as shown in the table below. The full score is 380 points.

Mission Type	Mission Item
A	Yellow-beaked red-headed chickens from temporary area A are transported to the chicken rearing area: 60 points each.
B	Black-beaked red-headed chickens from temporary area C are transported to the chicken rearing area: 50 points each.
C	Black-beaked white-headed chickens from temporary areas B, D, E are transported to the chicken rearing area: 40 points each.
D	Complete transporting 1 yellow-beaked red-headed chicken, 1 black-beaked red-headed chicken, and 3 black-beaked white-headed chickens to the chicken rearing area: additional 150 points, total 380 points (For a score to be counted, the chicken coop must be touching some part of the green frame before the competition ends. If the chicken coop is not touching any part of the green frame by the end of the match, it will not be scored and will result in one time damaging the competition area).

		
The image above can earn 150 points.	The image above can earn 100 points.	The image above can earn 380 points.

8.4. Scoring Criteria (Basic Group)

- 8.4.1. **Score Calculation:** At the end of the 2-minute mission time, the team with the highest score wins. If multiple teams achieve full scores, the team that used the shortest time wins.
- 8.4.2. **Score Calculation (Total Weight):** The team with the lightest total robot weight achieves a better score.
- 8.4.3. **Score Ranking:** Scores will first be ranked by total points. If total points are the same, the ranking will follow the table below. If all criteria in the table are the same, the total weight of the team's robots will be evaluated.

Sequence Order	Sequence Item
0	Total Score
1	Competition Completion Time
2	Number of Scored Missions
3	Number of The fully Scored Missions
4	Mission 2 Score
5	Mission 5 Score
6	Mission 4 Score
7	Mission 7 Score
8	Mission 3 Score
9	Mission 6 Score

10	Mission 1 Score
11	Total Weight
Note: If more than two teams earn a full score, the team with the shortest time wins.	

- 8.4.4. **Competition Time:** The total time of the contest is 2 minutes. After 2 minutes, contestants are not allowed to continue.
- 8.4.5. **Competition Area Damage:** Any damage to the contest site during the mission will result in a 5-point deduction. This contains damage to all props in the testing area.
- 8.4.6. **Competition Order:** Before the competition begins, participating teams will proceed to their designated competition area as announced by the organizer.
- 8.4.7. **Work Submission:** Teams that have finished their rounds must return their robots to the work display area until the end of the contest.

8.5. Contest Site Rules (Basic Group)

- 8.5.1. Item Inspection: After completing check-in, participants will proceed directly to the competition venue. The staff will conduct an on-site inspection of toolboxes, personal bags, tools (including decorative items and props), dangerous goods, etc. If any cheating is reported and verified to be true, the team's competition qualification will be canceled without exception.
- 8.5.2. Assembly Time: The assembly (including practice) time is 2 hours.
- 8.5.3. Mission Challenge: Participating teams must build their robots on-site on the day of the competition. After completion, they must undertake the mission challenge according to the scheduled time. Participants are not allowed to bring pre-assembled components into the venue. If a violation is discovered, their competition qualification will be canceled.
- 8.5.4. Competition Area Practice: During the assembly time, a practice area will be provided on-site for teams to practice and make adjustments. However, the number of practice areas is limited, so please follow the coordination and direction of the on-site order staff and practice in the order of the queue.
- 8.5.5. Entry Restrictions: During the competition, if a supervising teacher or parent of a participating team enters the competition venue without permission or passes items to a participant, and this is reported and verified to be true, 5 points will be deducted from that team's total score.
- 8.5.6. Interference with Others: During the competition, all teams are prohibited from affecting other teams' work or interfering with the judges' evaluation in any form (e.g., running, making loud noises). If a team does not improve after a warning, 5 points will be deducted from their total score.
- 8.5.7. Communications and Communication Devices: During the competition, participants may not converse, speak with, or send messages in any form to people outside the competition venue (e.g., supervising teachers, parents). If this is verified to be true, the team's competition qualification will be canceled without exception. However, in case of an emergency, assistance can be sought at the organizer's service table. Note: Mobile phones, tablets, and laptops are allowed for participants to bring in and use as controllers. To avoid disputes, participants are requested to proactively remove their SIM cards or enable flight mode.
- 8.5.8. Ownership of Items: If a team is reported and verified to be true to have deliberately damaged, stolen, snatched, or defrauded other teams of their items, 5 points will be deducted from their total score.
- 8.5.9. Permitted Materials: Participating teams may bring printed materials, pictures, audio/video files, etc., for reference.
- 8.5.10. Video Recording for Evidence: To avoid disputes after the competition, each team must cooperate with the organizer in recording their work's competition process for documentation.
- 8.5.11. Motor Inspection: Winning teams must submit to a motor inspection. If the inspection reveals that the motors do not meet the specifications designated by the organizer (for details, see Appendix 8.10.1, "List of Competition Motor Models"), the prize will be canceled and awarded to the next team in rank.

8.6. Robot for Mission (R4M) - Advanced Group Work Specifications

- 8.6.1. **Workpiece Dimensions:** Robot A and Robot B: Each robot is limited to a length of 30 cm x width of 30 cm, with no height limit. If the robot extends beyond these dimensions during operation, it is not subject to this size limit, but it must be operated remotely or electronically; no other external force may be used to extend it. Robot C: Each robot is limited to a length of 26 cm x width of 36 cm, with no height limit. E Image Recognition Area: Limited to a length of 30 cm x width of 20 cm. D Automated Platform: Each platform is limited to a size not exceeding three JUMBO BASE GRID of 30 cm x 60 cm. However, the platform's overhead space, extended area, and height are not limited in size. The platform's extended setup area must not exceed the green area in Mission 2 before the competition starts. The D automated platform must be fixed on the three JUMBO BASE GRID of 30 cm x 60 cm. During the competition, the D automated platform can only be fixed to the D automated platform setup area using 8 red round rods of 3 cm; no other connecting parts can be used.
- 8.6.2. **Number of Robots:** Each team must prepare 3 robots (A, B, and C) and the E Image Recognition Area to participate. Teams with fewer than 2 robots and no E Image Recognition Area set up will be considered to have forfeited. The D automated platform can be optionally added. If a robot needs repair and is approved by the judge, it must be taken out of the competition area for repair. Repair and replacement time are included in the competition time, and the robot must restart from the designated area. If a participant manually operates a robot or removes it from the competition area without the judge's approval, a verbal warning will be given for the first offense. A second offense will result in a 5-point deduction from the total score for damaging the competition area. Violations can accumulate.
- 8.6.3. **Workpiece Materials:** Participating teams must bring un-assembled Gigo block parts. Robot components must not use metal materials. If other materials or prohibited materials are brought for assembly, and a report is verified as true, points will be deducted or the team's participation and award eligibility will be canceled depending on the severity. Participating teams are also responsible for properly storing their parts to prevent loss.
- 8.6.4. **3D Printing and Other Processed Parts:** For fairness in the competition, all robots must be assembled using Gigo block parts. 3D printed, laser-cut, CNC parts, PP sheets, etc., are not allowed for competition assembly.
- 8.6.5. **Control Equipment and Power:** Participants are free to choose various control methods (e.g., smartphones, tablets, laptops, remote controls, etc.) to control the robot. Equipment must be prepared by each team, and no power will be provided on site. Software used is not limited. Besides the Bluetooth remote control provided by the organizer, participants may also choose to use infrared remote control. Note: Using infrared remote control may cause interference among participants using the same frequency. If a team's robot is maliciously interfered with by another team, or if a participant reports it, the interfering team will lose its eligibility to compete.
- 8.6.6. **Power Specifications:** No power will be provided at the competition venue. All participants must bring their own batteries. The rated total voltage for a single main board and main control box is 9 volts (inclusive) or less (the battery must have voltage size text marked on it), and it is not the total circuit voltage. For example: a maximum of 6 carbon-zinc batteries (1.5 volts each), a maximum of 2 18650 batteries

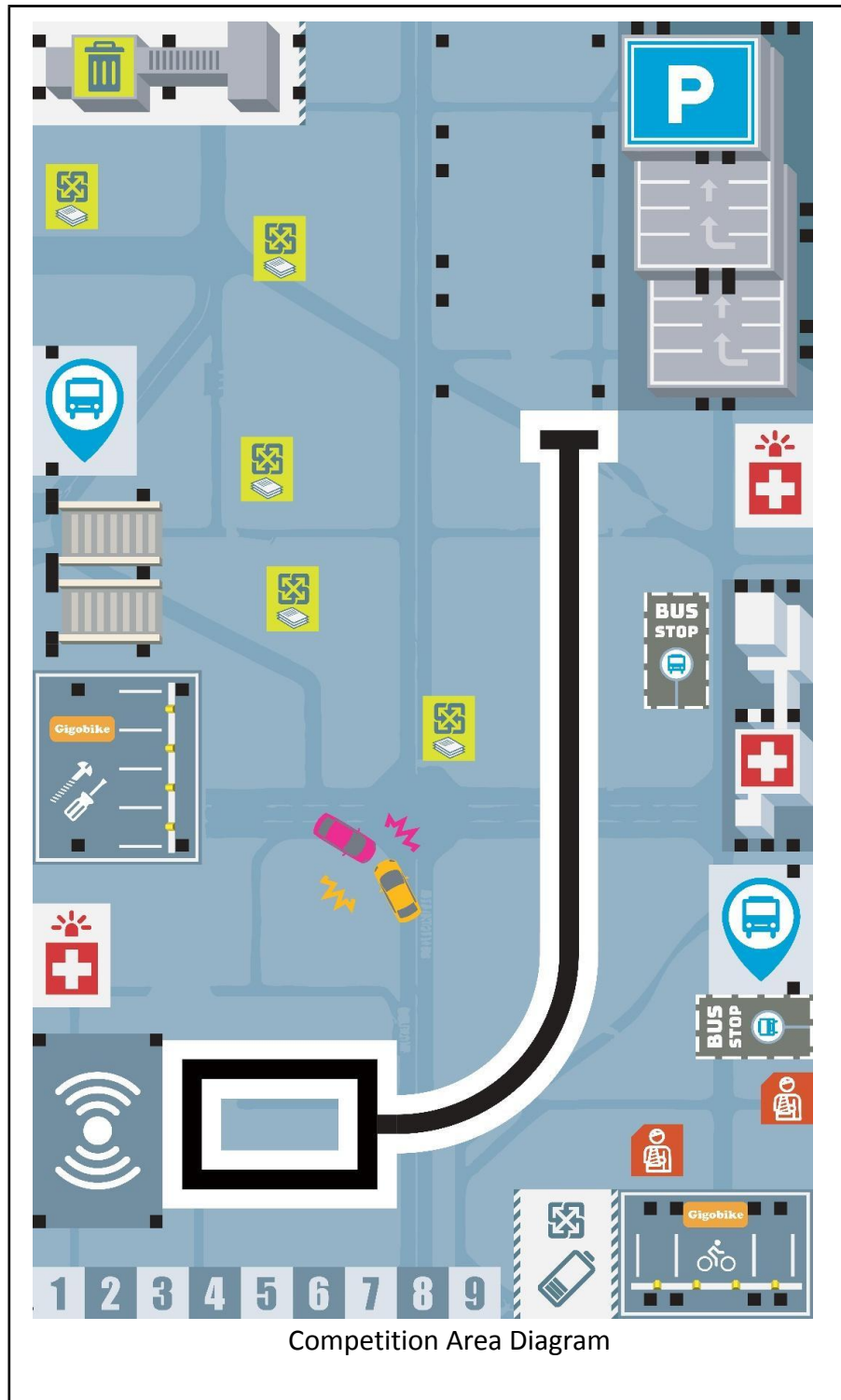
(3.7 volts each), or a maximum of 1 9-volt block battery. Robot C must operate with one of the following main control boxes: C-Gigo micro:bit CONTROL BOX (1269-W85-A1), C-Gigo Smart Main Control Box (1206-W85-A), or C-SMART CONTROLLER (1409-W85-A). The voltage must comply with the main control box's safety regulations, and the use of Size 3 lithium iron batteries, dummy batteries, or any related power sources is prohibited. For safety, the battery must be clearly labeled with its voltage and must have insulation wrapping without any exposed parts. Additionally, batteries brought by participating teams must not cause public harm (e.g., battery rupture, liquid or gas leakage). If a battery causes physical harm to a teammate or another competitor, the team will be disqualified, and all consequences must be the sole responsibility of the individual who caused the incident and their supervising teacher. The D automation platform may be operated using remote control, program control, or AI automatic recognition. The voltage for a single main control board on this platform, as well as on a single main control board or main control box in the E image recognition area, must comply with the aforementioned regulations. Note: This competition prohibits the use of large and dangerous batteries, such as lead-acid batteries.

- 8.6.7. Motor Usage Restrictions: The motors used in Robots A and B may not exceed 4. For Robot C, the motors used may not exceed 2. All robots used in the competition may only be connected via block assembly. The use of cable ties, rubber bands, foam tape, double-sided tape, super glue, or other adhesives for connection is prohibited. Cable ties and rubber bands may only be used for managing wiring. After the competition concludes, the organizer reserves the right to ask winning teams to disassemble their work on the spot for verification. If any violation of the rules is discovered, the team's prize will be revoked and awarded to the next team in rank.
- 8.6.8. To ensure fairness, please use the following for the robot motors: 7328-W85-A1-1, 7392-W85-B3, 7392-W85-B1, 7400-W85-A1, 7400-W85-A, 1247-W85-D1-1, 1247-W85-D2, 7447-W85-C, 7412-W85-A, 1247-W85-D3, 7447-W85-C1. For detailed information, please refer to Section 8.10.1 of the appendix, "List of Competition Motors, Main Control Boxes, and Related Components."【If a contestant uses the aforementioned motors but installs a different type of Bluetooth control box to control their robot, whether by modifying the connection between the motor and the Bluetooth box or by independently connecting the motor to other control devices, the competitor must ensure that the connection and control will not result in an unmanageable situation. Should any issues arise at the competition venue, the competitor is responsible for fixing the problem themselves and ensuring the robot successfully completes the mission.】
- 8.6.9. Material Safety: The use of dangerous items as work materials is strictly prohibited, such as: fire, corrosive chemicals, dangerous electrical components, biological materials, and items that may cause discomfort to personnel. If brought in privately and verified, the team will be immediately disqualified.

8.7. **Advanced Group Competition Theme: [AI Gigo City]**

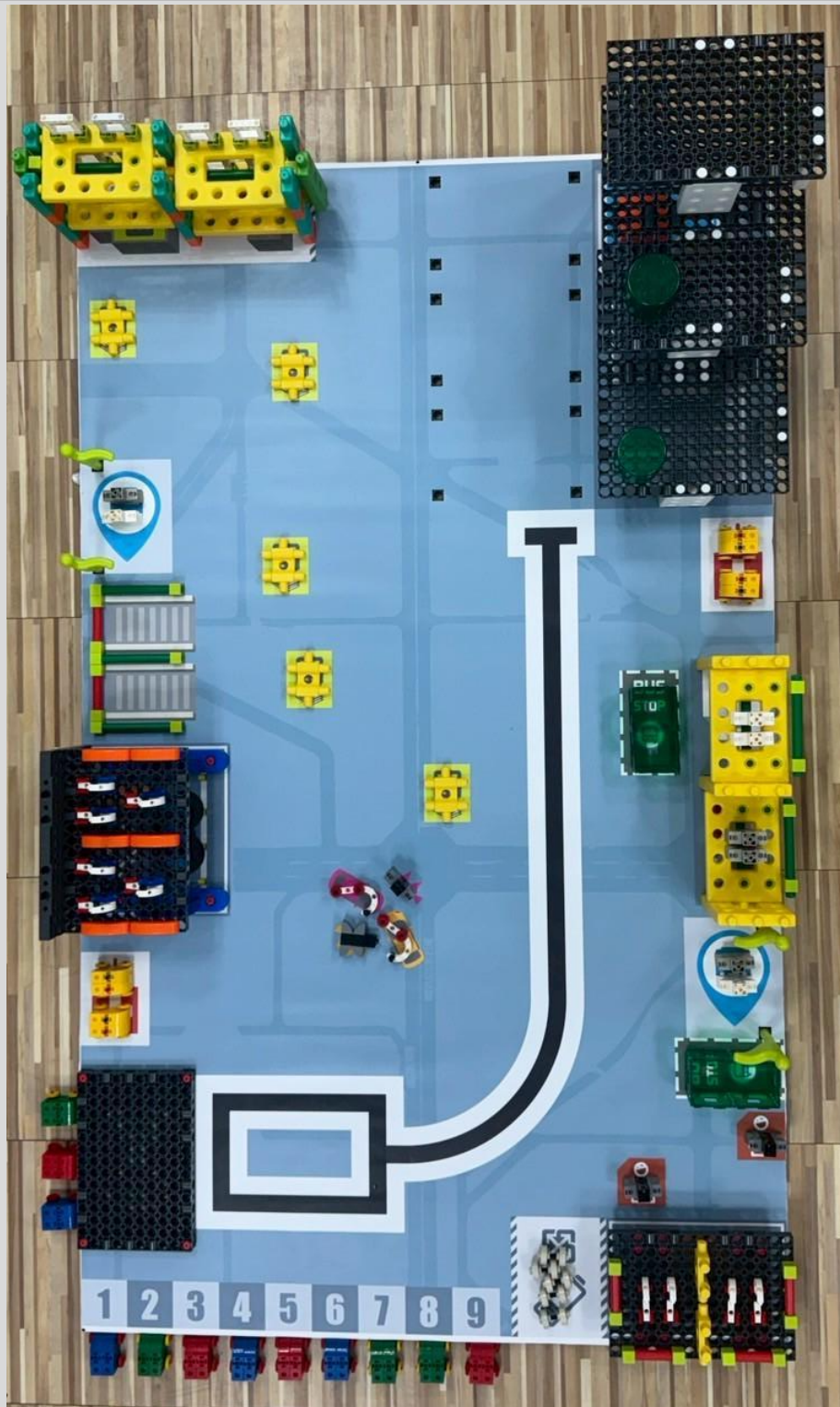
8.8. **Competition Scenario:**

- 8.8.1. **Competition Area Specifications:** The main competition area size is 120 x 200 cm (width x length) with matte oil-based PP photo paper laid flat on top. Each competition area accommodates only one team, and Robot A, Robot B, Robot C, the D automated platform, and the E image recognition area are placed in the designated starting areas and positions within the AI Gigo City.



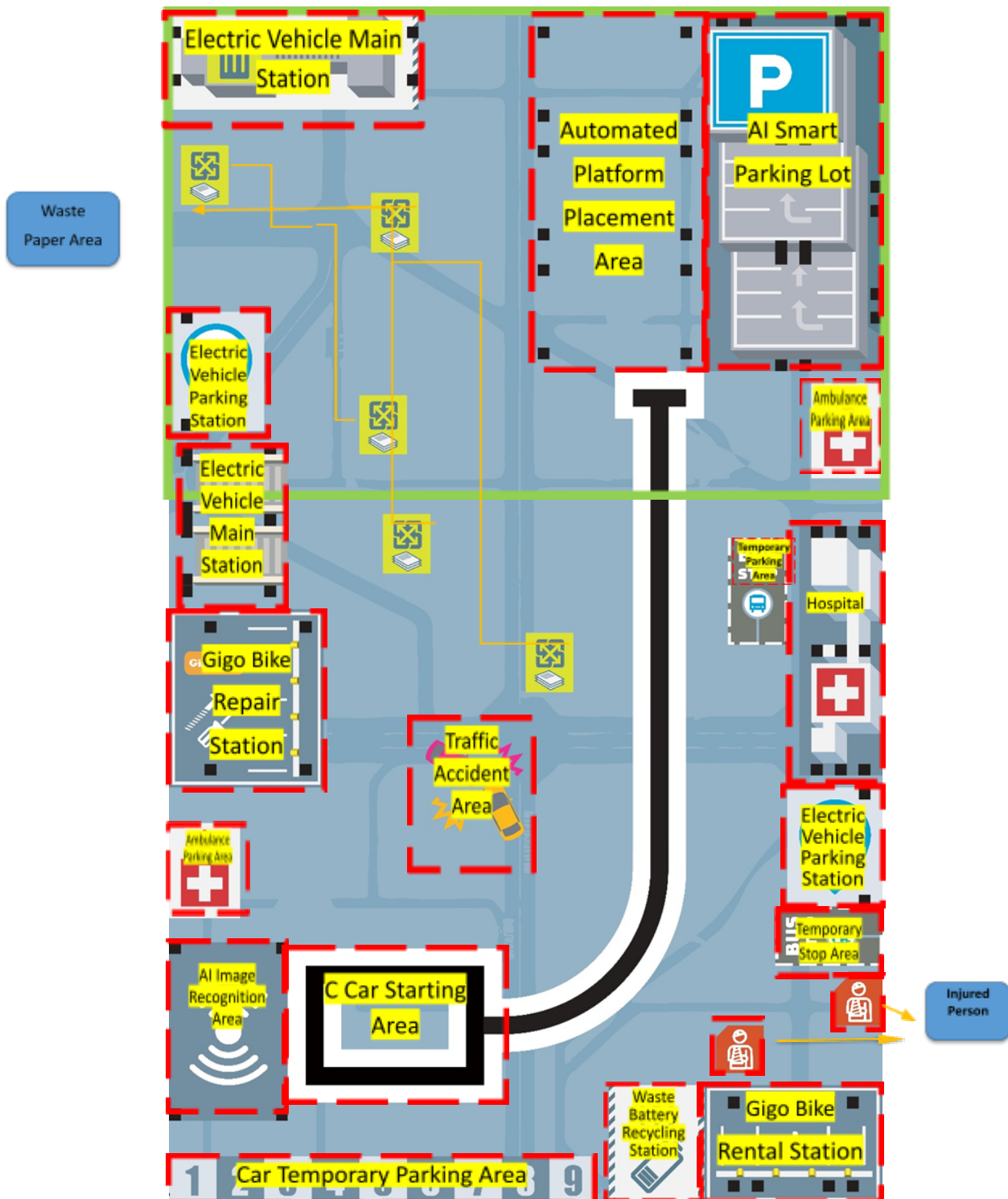
8.8.2. Missions

Diagrams and designated locations for all objects within each city area before the mission begins



AI Gigo City - Area Definitions

Before the mission begins, Robot C (this robot operates autonomously via programming, not remote control), the D automated platform (the part that solves the parking tower must operate autonomously, not via remote control; other areas are not limited), and the E image recognition area are placed in their designated starting areas and positions within AI Gigo City. Robot A and Robot B can start from any area in the competition area. Upon the judge's instruction, which signals the start of the mission, participating teams can begin.



Competition Missions

Competition results are based on a mission-based scoring system. Points are awarded for completing missions. The sum of all mission points is the team's total score.

Mission 1:

- Robot A completes one mission: earns an additional 10 points (mission points are not cumulative).
- Robot B completes one mission: earns an additional 10 points (mission points are not cumulative).
- Robot C leaves the starting area: earns an additional 10 points (mission points are not cumulative).
- D Automated Platform (other task-solving area) uses remote control to complete at least one scoring item: earns an additional 20 points. This score is counted once only and cannot be earned again.
- D Automated Platform (the car enters the parking tower area) uses fully automatic program control or AI automated recognition to guide a car into the parking tower and completes one scoring item: earns an additional 40 points. This score is counted once only and cannot be earned again.

Mission 2:

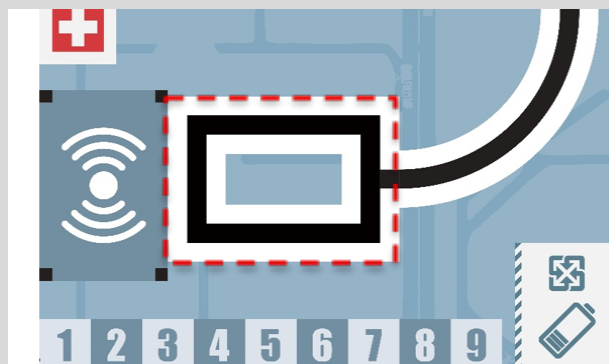
Use Robot C to sequentially transport cars numbered 1-9 to the D automated platform area. The D automated platform (car entry to parking tower section) will transport its own platform or the car on Robot C to the AI smart parking lot to earn corresponding points, as shown in the table below. The full score is 1500 points.

- **Robot C:** Must be equipped with a C-LINE FOLLOWER SENSOR (1247-W85-B3) or C-INFRARED SENSOR (1409-W85-D). Relevant specifications are in Attachment 8.10.1. This robot operates via autonomous program control, not remote control. The program can be written, modified, or uploaded by participants on-site during the competition.
- **D Automated Platform (car entry to parking tower section):** Must operate via fully automatic program control or AI automated recognition.
- **D Automated Platform (other mission-solving sections):** Can operate via fully automatic program control, AI automated recognition, or remote control.
- **E Image Recognition Area:** This area requires an image recognition system. After recognition, signals are sent to Robot C and the D automated platform (car entry to parking tower section) to execute the mission. All teams are required to use the **C-micro:bit Smart Controller (1409-W85-A)**, with specifications provided in **Appendix 8.10.1**, and pair it with **one** of the following designated AI camera kits to build the image recognition system: **#1409-B SMART AI LENS KIT** or **#1409-C Pixetto AI KIT**



Robot C

Robot C's starting position must be within the vertical projection area of the red dashed line shown below (26 x 36 cm). The activation signal must be sent to Robot C by the E image recognition system to begin the mission.



D Automated Platform

As shown in Figures 1 and 2, the automated platform area will have 3 20 x30 JUMBO BASE GRID *placed before the competition*. The automated platform created by participating teams can only be set up on the 3 20 x30 JUMBO BASE GRID provided by the organizer using 8 or fewer 3cm red rods. The platform's extended setup area must not exceed the green area in Figure 3 before the competition. After the competition begins, the D automated platform (other mission-solving sections) can exceed the green area using automated program control, AI automated recognition, or remote control. However, the extended mechanism must maintain a connection to the platform, and no related wires can be used as connecting material (e.g., tying a wire from the platform to the mechanism for free movement to solve a problem). The D automated platform (car entry to parking tower section) must operate via fully automatic program control or AI automated recognition.

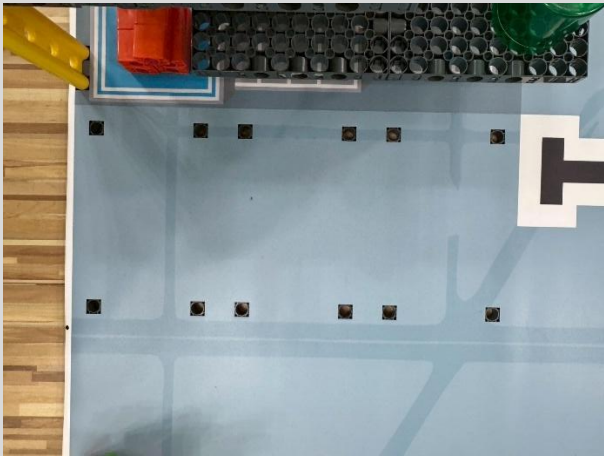


Figure 1

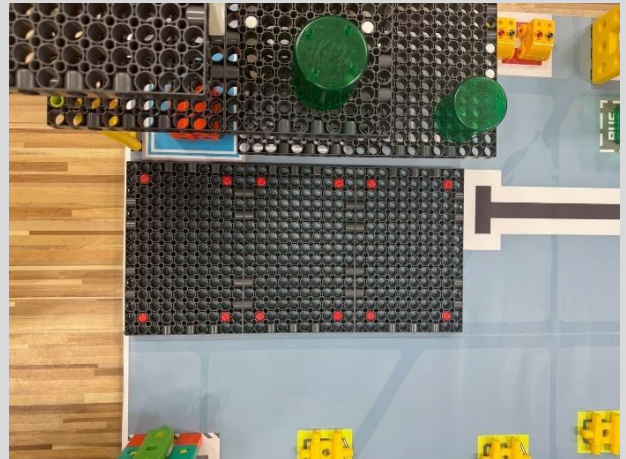


Figure 2

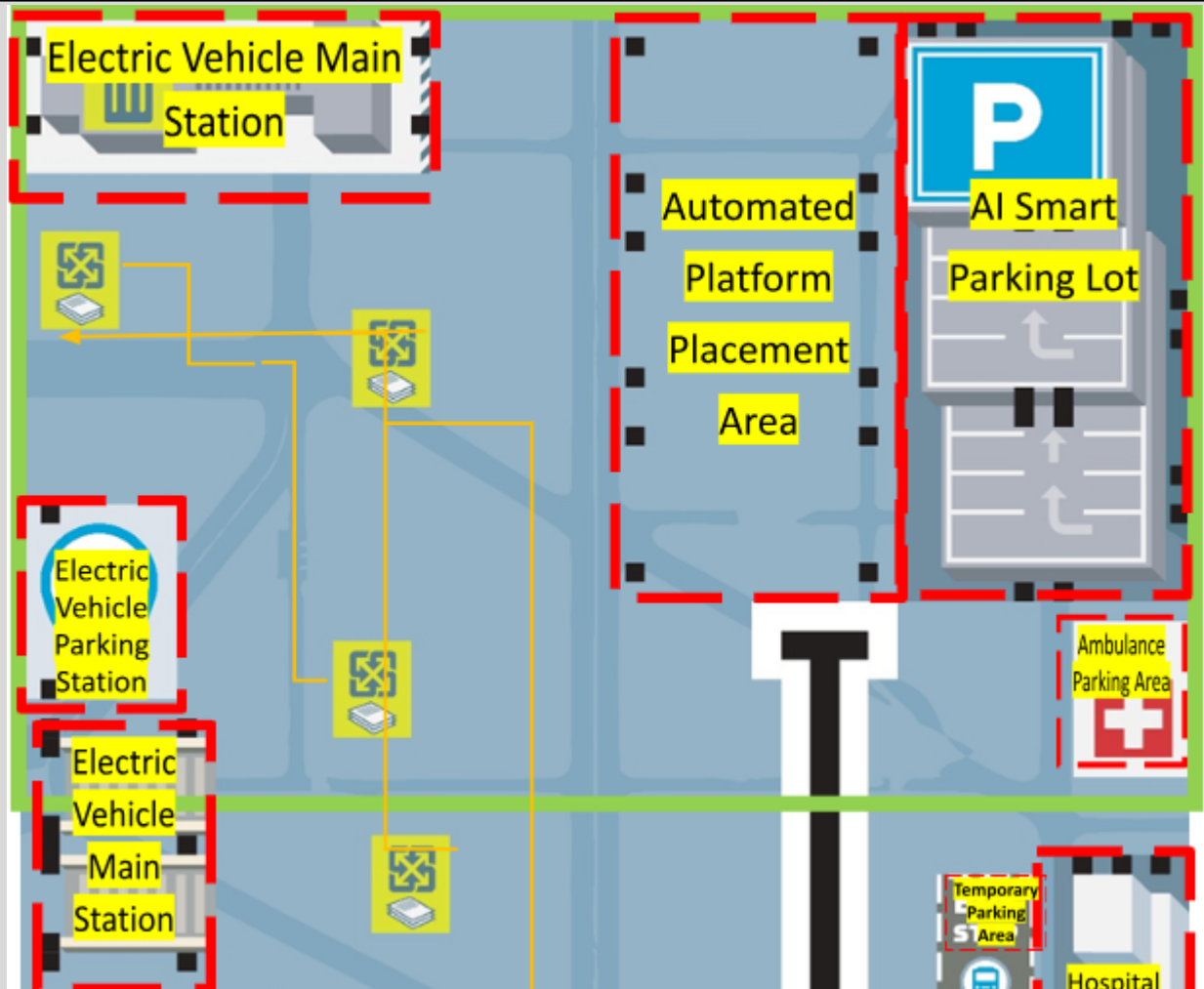
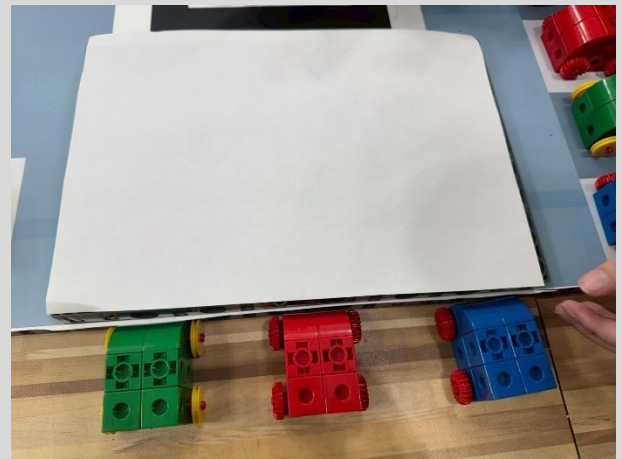


Figure 3

E Image Recognition Area

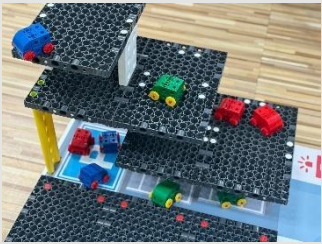
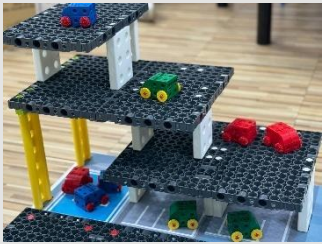
The image on the left below shows the image recognition area, limited to one large base plate. Outside the competition area below the recognition area, three cars (red, green, blue) as shown in the diagram will be prepared for participants to use in the recognition area for problem-solving. Participants can also prepare their own red, green, and blue color cards for recognition-based problem-solving. White paper (A4 size or smaller) can be placed in the recognition area as a background to facilitate recognition, as shown in the image on the right below.



Mission Item	Corresponding Quantity	Points
Item 1	1 car transported by Robot C to the automated platform	30
Item 2	2 cars transported by Robot C to the automated platform	60
Item 3	3 cars transported by Robot C to the automated platform	90
Item 4	4 cars transported by Robot C to the automated platform	120
Item 5	5 cars transported by Robot C to the automated platform	150
Item 6	6 cars transported by Robot C to the automated platform	180

Item 7	7 cars transported by Robot C to the automated platform	210
Item 8	8 cars transported by Robot C to the automated platform	240
Item 9	9 cars transported by Robot C to the automated platform	270
Item 10	1 car transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	30
Item 11	2 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	60
Item 12	3 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	90
Item 13	4 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	120
Item 14	5 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	150
Item 15	6 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	180
Item 16	7 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	210
Item 17	8 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	240
Item 18	9 cars transported by D automated platform (car entry to parking tower section) to a non-corresponding area in AI smart parking lot	270

Item 19	1 red car transported by D automated platform (car entry to parking tower section) to the second floor of AI smart parking lot	100
Item 20	2 red cars transported by D automated platform (car entry to parking tower section) to the second floor of AI smart parking lot	200
Item 21	3 red cars transported by D automated platform (car entry to parking tower section) to the second floor of AI smart parking lot	300+50
Item 22	1 green car transported by D automated platform (car entry to parking tower section) to the third floor of AI smart parking lot	150
Item 23	2 green cars transported by D automated platform (car entry to parking tower section) to the third floor of AI smart parking lot	300
Item 24	3 green cars transported by D automated platform (car entry to parking tower section) to the third floor of AI smart parking lot	450+50
Item 25	1 blue car transported by D automated platform (car entry to parking tower section) to the fourth floor of AI smart parking lot	200
Item 26	2 blue cars transported by D automated platform (car entry to parking tower section) to the fourth floor of AI smart parking lot	400
Item 27	3 blue cars transported by D automated platform (car entry to parking tower section) to the fourth floor of AI smart parking lot	600+50
The second floor of the parking lot is for red car parking. The third floor of the parking lot is for green car parking. The fourth floor of the parking lot is for blue car parking.		

			
The image above is for Item 9, earning 270 points.	The image above is for Item 20 + Item 22 + Item 12, earning 440 points.	The image above is for Item 20 + Item 22 + Item 25 + Item 14, earning 700 points.	The image above is for Item 21 + Item 24 + Item 27, earning 1500 points.

Note 1: If a programming error occurs after Robot C starts, participants can modify the program to allow the programmed robot to complete the mission. Program writing, modification, reading, and execution time are all included in the competition time.

Note 2: The software used for Robot C in this competition is WebAI x Gigo or micro:bit. The main control boxes for programming are C-Gigo Smart Main Control Box (1206-W85-A), C-Gigo micro:bit CONTROL BOX (1269-W85-A1), or C-SMART CONTROLLER (1409-W85-A). Please refer to Attachment 8.10.1 for main control boxes.

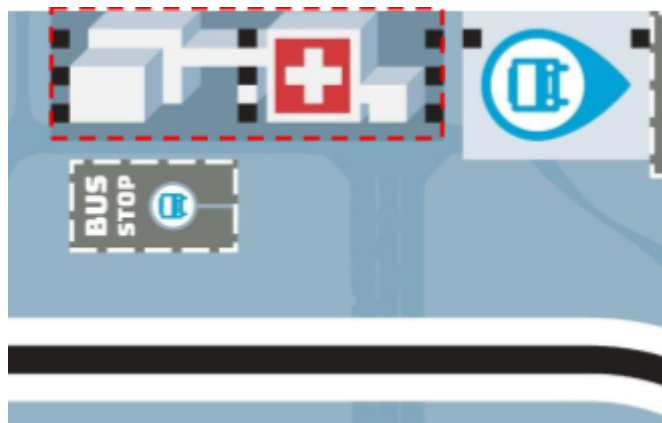
Note 3: If the programming equipment used by the robot during the competition requires internet connection, participants must prepare it themselves.

Note 4: The order of cars numbered 1-9 will be determined by drawing lots by each team before entering the competition area in the first preparation area.

Note 5: Automated platforms with extended conveyors, arms, or slides must not exceed the green-framed area shown in the diagram unless extended through remote control or automation. Any violation will result in a deduction of 50 points from the total score, applied cumulatively.

Mission 3:

Use Robot A, Robot B, or the D automated platform to transport injured persons and ambulances to the hospital (within the orthogonal projection range of the red dashed line below) to earn corresponding points, as shown in the table below. The full score is 300 points.



Mission Item	Corresponding Quantity	Points
Item 1	1 ambulance	10
Item 2	2 ambulances	20
Item 3	3 ambulances	30
Item 4	4 ambulances	40
Item 5	1 ambulance and 1 injured person on the 1st floor	20
Item 6	2 ambulances and 2 injured persons on the 1st floor	40
Item 7	3 ambulances and 3 injured persons on the 1st floor	60
Item 8	4 ambulances and 4 injured persons on the 1st floor	80
Item 9	1 ambulance and 1 injured person on the 2nd floor	60

Item 10	2 ambulances and 2 injured persons on the 2nd floor	120
Item 11	3 ambulances and 3 injured persons on the 2nd floor	180
Item 12	4 ambulances and 4 injured persons on the 2nd floor	240+60

			
The image above is for Item 3, earning 30 points.	The image above is for Item 5, earning 20 points.	The image above is for Item 6 + Item 10, earning 120 points.	The image above is for Item 12, earning a full score of 300 points.

Task and Scoring Rules

Competition scores are calculated based on the tasks completed by each team. Please note that once a task configuration has been scored, it cannot be counted again. In addition, when a single resource (e.g., an ambulance) can be applied to multiple tasks, only one scoring option may be chosen.

1. Basic Task Points

Each ambulance successfully delivered to the designated location earns base points. Please refer to Items 1 through 4 in the table.

2. Combination Bonus Tasks

When a task involves delivering both an ambulance and a patient, the score will be calculated based on the specific “delivery combination.” Teams may strategize and choose different task combinations to maximize their total score.

If only one resource (e.g., one ambulance) is available and it is used to achieve multiple goals (for example, delivering patients to different floors), only the single highest-scoring configuration will be counted.

3. Scoring Example

Suppose your team successfully delivers one ambulance, transports one patient to the first floor, and another patient to the second floor.

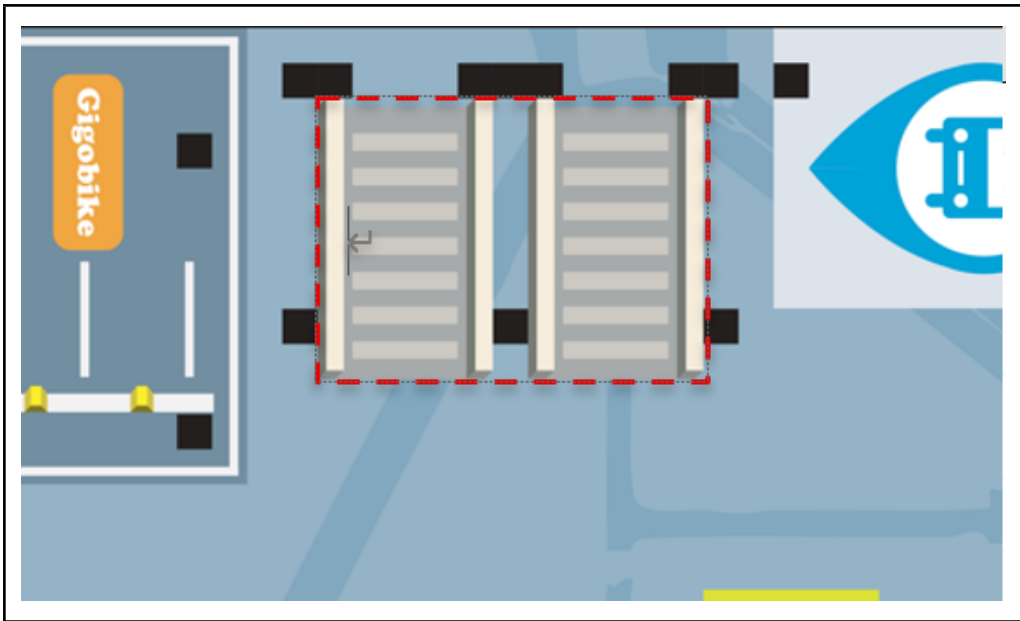
- Possible Combination 1:
Pair the ambulance with the task of “one patient on the first floor.”
This matches Item 5 and earns 20 points.
- Possible Combination 2:
Pair the ambulance with the task of “one patient on the second floor.”
This matches Item 9 and earns 60 points.

According to the “one resource, one scoring option” rule, the team must choose the higher-scoring combination. Therefore, the final score is 60 points.

Mission 4:

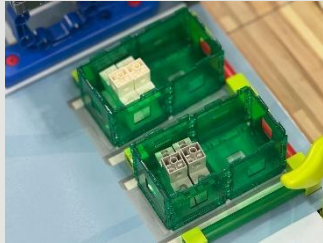
Use Robot A, Robot B, or the D automated platform to transport passengers and electric vehicles to the electric vehicle main station (within the orthogonal projection range of the red dashed line below) to earn corresponding points. Each electric vehicle is limited to carrying a maximum of 4 passengers; for every person exceeding 4, 20 points will be deducted. The corresponding points are shown in the table below. Full score is 300 points.

Additionally, if the orthographic projection of the electric car extends beyond the gray area, no points will be awarded for the car. However, if the passenger remains within the gray area, the passenger will still be counted for scoring.



Mission Item	Corresponding Quantity	Points
Item 1	1 electric vehicle	20
Item 2	2 electric vehicles	40
Item 3	1 electric vehicle and 1 passenger	40
Item 4	1 electric vehicle and 2 passengers	60
Item 5	1 electric vehicle and 3 passengers	80
Item 6	1 electric vehicle and 4 passengers	100
Item 7	2 electric vehicles and 1 passenger	60
Item 8	2 electric vehicles and 2 passengers	80
Item 9	2 electric vehicles and 3 passengers	100
Item 10	2 electric vehicles and 4 passengers	120
Item 11	2 electric vehicles and 5 passengers	140
Item 12	2 electric vehicles and 6 passengers	160
Item 13	2 electric vehicles and 7 passengers	180

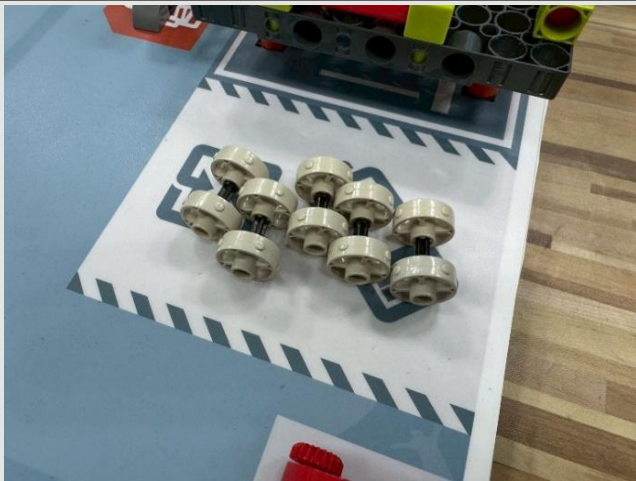
2026 World GreenMech Contest

Item 14	2 electric vehicles and 8 passengers	200	
Item 15	2 electric vehicles and 8 passengers, with passengers separated by color	200+60	
			
The image above is for Item 6, earning 100 points	The image above is for Item 10, earning 120 points	The image above is for Item 14, earning 200 points	The image above is for Item 15, earning 300 points

Mission 5:

Use Robot A, Robot B, or the D automated platform to transport waste batteries to the automated recycling center (within the orthogonal projection range of the block frame) to earn corresponding points. The corresponding points are shown in the table below. The full score is 150 points.

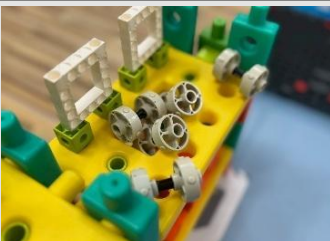
Mission Item	Corresponding Quantity	Points
Item 1	1 waste battery	30
Item 2	2 waste batteries	60
Item 3	3 waste batteries	90
Item 4	4 waste batteries	120
Item 5	5 waste batteries	120+30



The image above shows the temporary storage location for waste batteries.



The image above shows the location of waste batteries in the automated recycling center.



The image above is for Item 3, earning 90 points



The image above is for Item 4, earning 120 points



The image above is for Item 5, earning 150 points



The image above is for Item 5, earning 150 points

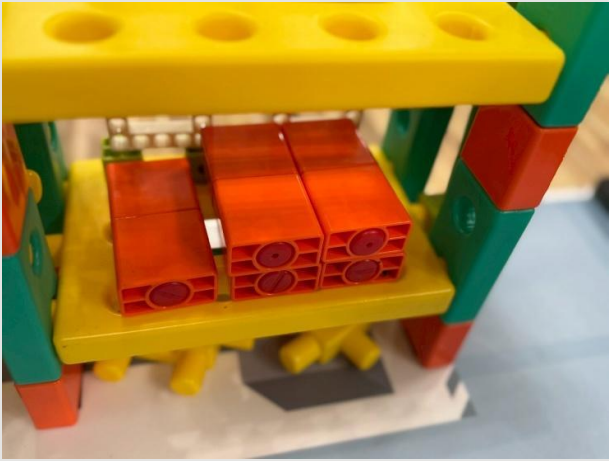
Mission 6:

Use Robot A, Robot B, or the D automated platform to transport Tetra Paks to the automated recycling center (within the orthogonal projection range of the block frame) to earn corresponding points. The corresponding points are shown in the table below. The full score is 230 points.

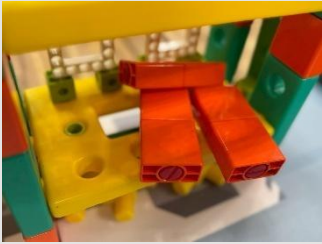
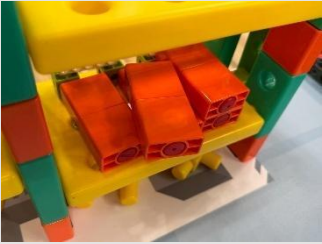
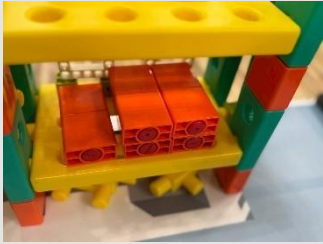
Mission Item	Corresponding Quantity	Points
Item 1	1 Tetra Pak	40
Item 2	2 Tetra Paks	80
Item 3	3 Tetra Paks	120
Item 4	4 Tetra Paks	160
Item 5	5 Tetra Paks	200+30



The image above shows the temporary storage location for Tetra Paks.



The image above shows the location of Tetra Paks in the automated recycling center.

		
The image above is for Item 1, earning 40 points	The image above is for Item 4, earning 160 points	The image above is for Item 5, earning 230 points

Mission 7:

Use Robot A, Robot B, or the D automated platform to transport waste tires to the automated recycling center (within the orthogonal projection range of the block frame) to earn corresponding points. The corresponding points are shown in the table below. The full score is 300 points.

Mission Item	Corresponding Quantity	Points
Item 1	1 waste tire	50
Item 2	2 waste tires	100
Item 3	3 waste tires	150
Item 4	4 waste tires	200
Item 5	5 waste tires	250+50



The image above shows the temporary storage location for waste tires.



The image above shows the location of waste tires in the automated recycling center.



The image above is for Item 1, earning 50 points



The image above is for Item 2, earning 100 points



The image above is for Item 3, earning 150 points



The image above is for Item 5, earning 300 points

Mission 8:

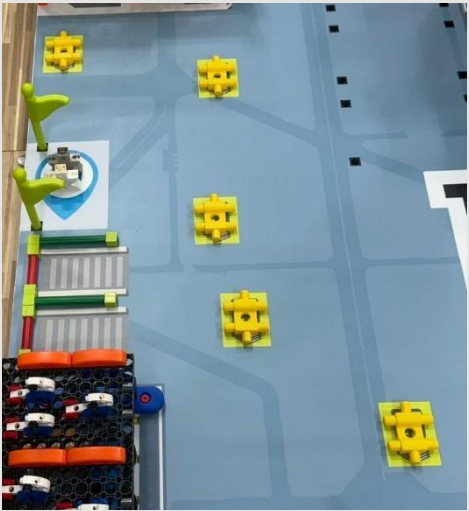
Teams must use Robot A, Robot B, or the D automated platform to transport plastic bottles to the automated recycling center. Bottles will be considered successfully delivered if placed within the projected area of the block frame, regardless of whether they are upright, upside down, or on their side. Points will be awarded according to the scoring table below, with a maximum of 250 points.

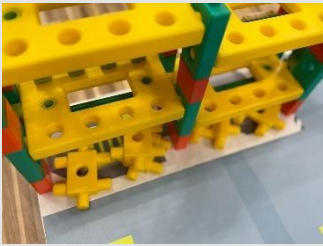
Note: Before the competition, one plastic bottle must be placed on the orthographic projection of the JUMBO BASE GRID on the right side of the second floor. The other must be placed on the orthographic projection of the JUMBO BASE GRID on the right side of the third floor. The orientation of the bottle (upright, upside down, or on its side) is not restricted.

Mission Item	Corresponding Quantity	Points
Item 1	1 plastic bottle	100
Item 2	2 plastic bottles	200+50
		
The image above shows the temporary storage location for plastic bottles.	The image above shows the location of plastic bottles in the automated recycling center.	
		
The image above is for Item 1, earning 100 points	The image above is for Item 2, earning 250 points	The image above is for Item 2, earning 250 points

Mission 9:

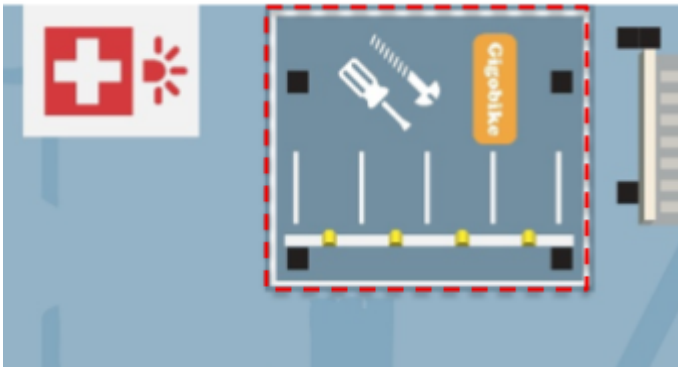
Use Robot A, Robot B, or the D automated platform to transport recycled paper to the automated recycling center (within the orthogonal projection range of the block frame) to earn corresponding points. The corresponding points are shown in the table below. The full score is 70 points.

Mission Item	Corresponding Quantity	Points
Item 1	1 recycled paper	10
Item 2	2 recycled papers	20
Item 3	3 recycled papers	30
Item 4	4 recycled papers	40
Item 5	5 recycled papers	50+20
	The image above shows the temporary storage location for recycled papers.	
	The image above shows the location of recycled papers in the automated recycling center.	

			
The image above has no items and earns 0 points.	The image above has no items and earns 0 points.	The image above is for Item 2, earning 20 points.	The image above is for Item 5, earning 70 points.

Mission 10:

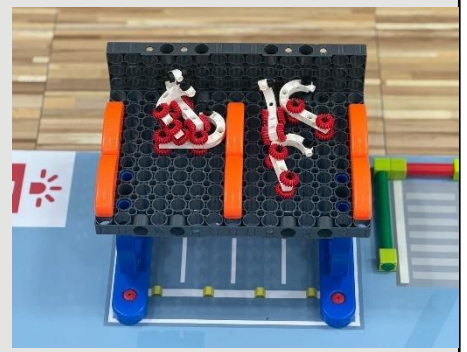
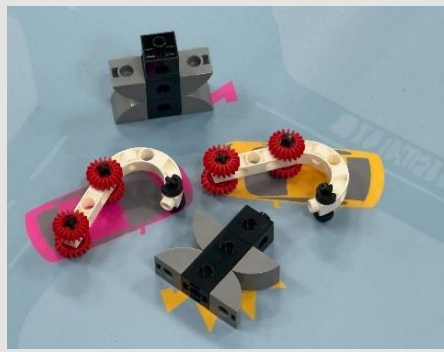
Use Robot A, Robot B, or the D automated platform to transport faulty Gigobikes to the Gigobike repair station (1st floor within the orthogonal projection range of the red dashed line below; 2nd floor within the orthogonal projection range of the large base plate) to earn corresponding points. The corresponding points are shown in the table below. The full score is 270 points.



Mission Item	Corresponding Quantity	Points
Item 1	1 faulty Gigo bike on the 1st floor	20
Item 2	2 faulty Gigo bikes on the 1st floor	40
Item 3	3 faulty Gigo bikes on the 1st floor	60
Item 4	4 faulty Gigo bikes on the 1st floor	80
Item 5	5 faulty Gigo bikes on the 1st floor	100
Item 6	6 faulty Gigo bikes on the 1st floor	120
Item 7	1 faulty Gigo bike on the 2nd floor	40
Item 8	2 faulty Gigo bikes on the 2nd floor	80

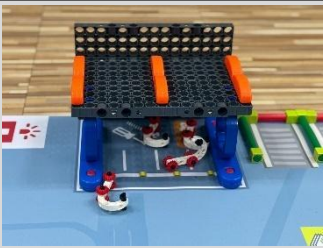
2026 World GreenMech Contest

Item 9	3 faulty Gigo bikes on the 2nd floor	120
Item 10	4 faulty Gigo bikes on the 2nd floor	160
Item 11	5 faulty Gigo bikes on the 2nd floor	200
Item 12	6 faulty Gigo bikes on the 2nd floor	240+30



The image above shows the temporary storage location for faulty Gigo bikes.

The image above shows the location of faulty Gigo bikes at the Gigobike repair station.



The image above is for Item 3, earning 60 points.

The image above is for Item 3, earning 60 points.

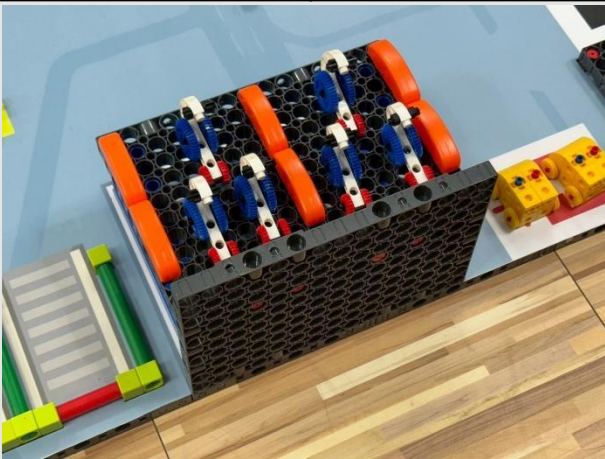
The image above is for Item 6, earning 120 points.

The image above is for Item 12, earning 270 points.

Mission 11:

Use Robot A, Robot B, or the D automated platform to transport functional Gigobikes to the Gigobike rental station (within the orthogonal projection range of the large base plate) to earn corresponding points. The corresponding points are shown in the table below. The full score is 210 points.

Mission Item	Corresponding Quantity	Points
Item 1	1 Gigo bike	30
Item 2	2 Gigo bikes	60
Item 3	3 Gigo bikes	90
Item 4	4 Gigo bikes	120
Item 5	5 Gigo bikes	150
Item 6	6 Gigo bikes	180+30



The image above shows the temporary storage location for Gigo bikes.



The image above shows the location of Gigo bikes at the Gigo bike rental station.

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The image above is for
Item 2, earning 60
points.



The image above is for
Item 2, earning 60
points.



The image above is for
Item 4, earning 120
points.



The image above is for
Item 6, earning 210
points.

8.8. Scoring Criteria (Advanced)

- 8.8.1. Score Calculation:** At the end of the 3-minute mission time, the team with the highest score achieves a better ranking. If there is a tie in points, the team that completed the mission in the shortest time wins.
- 8.8.2. Score Calculation (Total Weight):** The team with the lightest total robot weight achieves a better score.
- 8.8.3. Score Ranking:** Scores will first be ranked by total points. If total points are the same, the ranking will follow the table below. If all criteria in the table are the same, the total weight of the team's robots will be evaluated.

Sequence order	Sequence item
0	Total Score
1	Competition Completion Time
2	Mission 2 Score
3	Number of Missions with Points Achieved
4	Number of Missions with the Full Points Achieved
5	Mission 3 Score
6	Mission 4 Score
7	Mission 8 Score
8	Mission 7 Score
9	Mission 10 Score

10	Mission 11 Score
11	Mission 6 Score
12	Mission 5 Score
13	Mission 9 Score
14	Mission 1 Score
15	Total Weight
* Note: If more than two teams earn a full score, the team with the shortest time wins.	

- 8.8.4. Competition Time:** The total competition time must not exceed 3 minutes. The mission ends when time is up and cannot be continued.
- 8.8.5. Competition Area Damage:** If a robot damages the competition area during mission execution, 5 points will be deducted from the total score for each instance of damage in each location.
- 8.8.6. Competition Order:** After the competition begins, participating teams will proceed to their designated competition area as announced by the organizer.
- 8.8.7. Work Submission:** Teams that complete the mission must return their participating robots to the designated work storage area and can only retrieve them after the competition ends.

8.9. Contest Site Rules

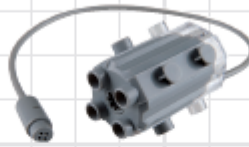
- 8.9.1. Item Inspection: After completing check-in, participants will proceed directly to the competition venue. The organizer staff will conduct an on-site inspection of toolboxes, personal bags, tools (including decorative items and props), dangerous goods, etc. If any cheating is reported and verified to be true, the team's competition qualification will be canceled without exception.
- 8.9.2. Assembly Time: The assembly (including practice) time is 2 hours.
- 8.9.3. Mission Challenge: Participating teams must build their robots on-site on the day of the competition. After completion, they must undertake the mission challenge according to the scheduled time. Participants are not allowed to bring pre-assembled components into the venue. If a violation is discovered, their competition qualification will be canceled.
- 8.9.4. Competition Area Practice: During the assembly time, a practice area will be provided on-site for teams to practice and make adjustments. However, the number of practice areas is limited, so please follow the coordination and direction of the on-site order staff and practice in the order of the queue.
- 8.9.5. Entry Restrictions: During the competition, if a supervising teacher or parent of a participating team enters the competition venue without permission or passes items to a participant, and this is reported and verified to be true, 5 points will be deducted from that team's total score.
- 8.9.6. Interference with Others: During the competition, all teams are prohibited from affecting other teams' work or interfering with the judges' evaluation in any form (e.g., running, making loud noises). If a team does not improve after a warning, 5 points will be deducted from their total score.
- 8.9.7. Communications and Communication Devices: During the competition, participants may not converse, speak with, or send messages in any form to people outside the competition venue (e.g., supervising teachers, parents). If this is verified to be true, the team's competition qualification will be canceled without exception. However, in case of an emergency, assistance can be sought at the organizer's service desk. Note: Mobile phones, tablets, and laptops are allowed for participants to bring in and use as controllers. To avoid disputes, participants are requested to proactively remove their SIM cards or enable flight mode.
- 8.9.8. Ownership of Items: If a team is reported and verified to be true to have deliberately damaged, stolen, snatched, or defrauded other teams of their items, 5 points will be deducted from their total score.
- 8.9.9. Permitted Materials: Participating teams may bring printed materials, pictures, audio/video files, etc., for reference.
- 8.9.10. Video Recording for Evidence: To avoid disputes after the competition, each team must cooperate with the organizer in recording their work's competition process for documentation.
- 8.9.11. Motor Inspection: Winning teams must submit to a motor inspection. If the inspection reveals that the motors do not meet the specifications designated by the organizer (for details, see Appendix 8.10.1, "List of Competition Motor Models"), the prize will be canceled and awarded to the next team in rank.

8.10. Appendix

8.10.1. List of Competition Motors, Main Control Boxes, and Related Component



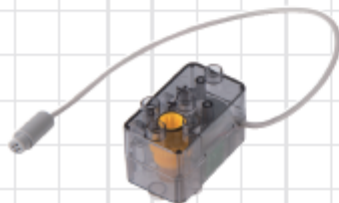
1	7328-W85-A1-1
NAME	C-30X MOTOR WITH WIRE CONNECTOR
MATERIAL	PC



2	7392-W85-B3
NAME	C-32X PLANETARY GEARBOX (DDM)
MATERIAL	PC/ABS



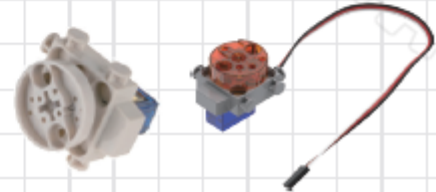
2-1	7392-W85-B1
NAME	C-CAR MOTOR
MATERIAL	PC/ABS



3	7400-W85-A1
NAME	C-40X MOTOR WITH WIRE CONNECTOR (DDM)
MATERIAL	PC



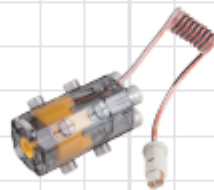
3-1	7400-W85-A
NAME	C-40X MOTOR WITH WIRE CONNECTOR
MATERIAL	PC/POM



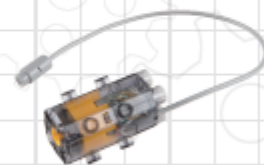
4	1247-W85-D1-1
NAME	C-180° SERVO MOTOR
MATERIAL	PC/ABS



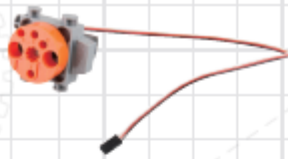
5	1247-W85-D2
NAME	C-CONTINUOUS ROTATION SERVO MOTOR
MATERIAL	PC/ABS



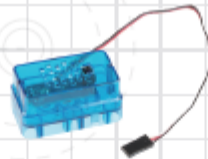
6	7447-W85-C
NAME	C-50X PLANETARY GEARBOX
MATERIAL	PC/POM



7	7412-W85-A
NAME	C-50X PLANETARY GEARBOX (DDM)
MATERIAL	PC/POM



8	1247-W85-D3
NAME	C-180 SERVO MOTOR (METAL GEAR)
MATERIAL	PC



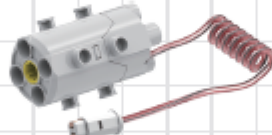
9	1247-W85-B3
NAME	C-LINE FOLLOWER SENSOR
MATERIAL	PC



10	1246-W85-C
NAME	C-FORCE SENSOR
MATERIAL	PC/ABS



11	1269-W85-A1
NAME	C-Gigo micro:bit CONTROL BOX
MATERIAL	PC/ABS



12	7447-W85-C1
NAME	C-50X PLANETARY GEARBOX II (New)
MATERIAL	PC/POM



13	1246-W85-A1
NAME	C-Gigo SMART CONTROL BOX
MATERIAL	PC/ABS



14	1204RR-W85-A1
NAME	C-Gigo MAKER CONTROL BOX
MATERIAL	PC



15	7408-W85-A2
NAME	C-BATTERY BOX WITH RECEIVER (4C/3M)
MATERIAL	PC/ABS



16	7407-W85-D
NAME	C-BATTERY BOX WITH RECEIVER (4C/2M)
MATERIAL	PC/ABS



17	1206-W85-A
NAME	C-Gigo AI CONTROL BOX
MATERIAL	PC/ABS



18	1409-W85-A
名稱	C-SMART CONTROLLER
材質	ABS



19	1409-W85-B
NAME	C-ULTRASONIC SENSOR
MATERIAL	ABS



20	1409-W85-D
NAME	C-INFRARED SENSOR
MATERIAL	ABS



21	1409-W85-E
名稱	C-TOGGLE SENSOR
材質	ABS



22	1409-W85-F
NAME	C-COLOR SENSOR
MATERIAL	ABS

9. GreenMech Jr. – Science Competition Rules

9.1. Competition Theme: Ecological Defense War

Invasive alien species present a serious challenge globally. When these species are introduced to a new area, they can cause economic losses, disrupt ecosystems, and even pose a threat to human health. Research by Qbjiang and Aban indicates that alien species are widespread and have caused ecological disasters in some areas. Governments worldwide invest significant resources annually to control these species, but complete eradication has never been fully achieved. The goal is to contain their spread. This competition calls on children to help Qbjiang and Aban on their mission to eradicate invasive alien species and protect the environment.

[Competition One: Logistics Supply]

[Competition Two: Combating Invasive Alien Species]

9.2. Competition Schedule

Time	Item	Remarks
8:00 - 9:00	Check-in and Materials Inspection	Contestants must check-in at their designated team table, which can be found on the official website's map. Participants must also present their Certificate of Student Enrollment. All provided materials should be inspected against the given list, and any missing items must be reported to the staff before the competition begins. Once production time starts, materials cannot be replenished or replaced.
08:50 - 9:00 (10 minutes)	Opening Ceremony and Rules Reminder	
9:10 - 9:35 (25 minutes)	Competition One: Assembly & Practice Time	Contestants may only use materials provided by the organizer. Models are built and tested during this time.
9:35 - 10:15 (40 minutes)	Competition One: Logistics Supply	During the competition, the work and a peg remover must be placed on the storage box with the lid locked. All other materials should be stored in the box, and no other parts can be used for modification or production. Models will be weighed before the competition starts.

10:15 - 10:35 (20 minutes)	Competition Two: Assembly & Practice Time	Contestants may only use materials provided by the organizer.
10:35 - 11:15 (40 minutes)	Competition Two: Combating Invasive Alien Species	During Competition Two, the work and a peg remover must be placed on the storage box with the lid locked. All other materials should be stored in the box, and no other parts can be used for modification or production. Models will be weighed before the
11:15 - 11:50 (35 minutes)	Calculation and Confirmation of Scores	
11:50~	Awards Ceremony	

Late Arrival: Teams that are late due to "force majeure" factors can still join the competition, but no time extension or rule changes will be granted. They may only participate in the remaining unspent time.

9.3. Material & Site Specifications

All teams will receive a Gigo #1261 Scientific Tour (with manual) and 10 rubber bands. Teams are allowed to bring their own throwing objects for practice in Competition Two, but no other materials or tools are permitted. Any team that violates the material rules will be disqualified. Materials (rubber bands) may be replaced during the pre-competition inspection if there are shortages, defects, or damages. However, no replacement is allowed after production begins at 9:10. Each team is responsible for the storage and use of its own materials.

9.4. Contest Method

9.4.1. **Competition One:** Logistics Supply (You can refer to the #1261 Scientific Tour - Elastic Car)

- Building Restrictions:
 - Each team must build a four-wheeled vehicle powered *solely* by rubber bands. Vehicles that do not use elastic energy will not be scored.
 - The vehicle's body must fit within a 30 cm x 30 cm area when viewed from above.
- Contest Rules:
 - 1) The competition area consists of a paper mat (120 x 300 cm, matte PP photo paper) with a Sending Zone and a Receiving Zone, separated by two red lines 3 meters apart.



Figure 9-1. Competition Map

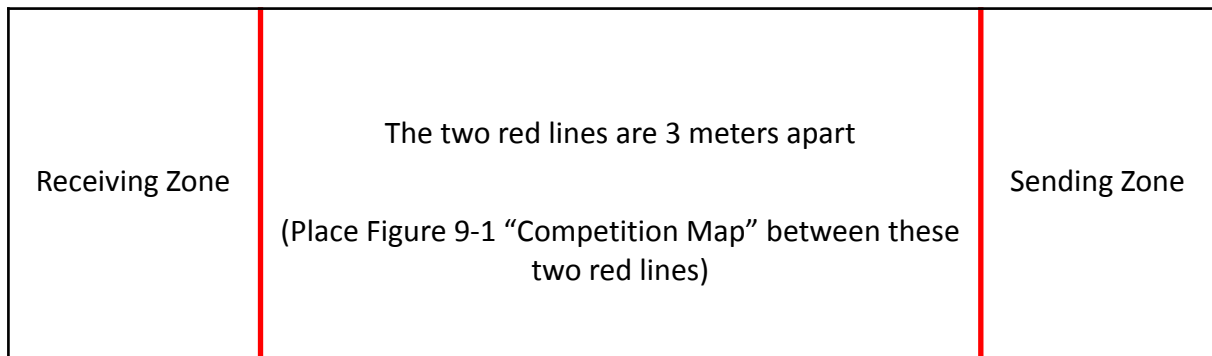


Figure 9-2. Competition Area Setting

- 2) The competition time is 90 seconds. A hunting bullet consists of one B-CUBE and one B-6 HOLE CUBE (the color of cubes are not limited). Only one hunting bullet may be loaded onto the vehicle at a time. There is no specific restriction on how the bullets are loaded, but they must remain in their original condition when removed in order to be counted for scoring.



Figure 9-3. One Hunting Bullet

- 3) The organizer will provide 10 "hunting bullets". Each team's two contestants must operate the vehicle in both the sending and receiving zones to deliver and replenish the bullets. The vehicle must be powered by elasticity for both launching and returning and must be released before crossing the red line. If a team violates the release rule, the attempt will not be counted, and the operation must be repeated without pausing the timer.
- 4) If the vehicle fails to reach the other zone, the operator for that trip must retrieve it and relaunch it. If a bullet is dropped, it will not be scored, but both the vehicle and the bullet can be retrieved and reattempted by the original operator without pausing the timer.
- 5) Successfully replenished bullets will be converted into scores as follows:

Successfully replenished bullets	Bullets 1-3	Bullets 4-6	Bullets 7-10
converted into scores	+20 points each	+30 points each	+40 points each

- 6) Teams can request a 30-second repair period if they detect an issue with the vehicle before the competition. The 90-second countdown will start after this period, regardless of whether the issue is resolved.
- 7) The vehicle will be weighed before the competition, and this weight will be used as a tie-breaker.

9.4.2. **Competition Two:** Combating Invasive Alien Species (You can refer to the #1261 Scientific Tour - Catapult)

- Building Restrictions:
 - Each team must build a launcher powered *solely* by rubber band elasticity to shoot the hunting bullet. Launchers that do not use elastic energy will not be scored.
 - There are no size or construction method restrictions for the launcher.
- Contest Rules:
 - (1) The number of bullets available to each team for this competition is equal to the number of bullets they successfully transported in Competition One.
 - (2) The target areas are shown on the competition map, with different point values for

"invasive species" A (10 points), B (20 points), C (30 points), D (40 points), and E (50 points). Each grid measures 10 x 20 cm.

Preparation Area									
50 points	Invasive Species E	20 points	Invasive Species B	40 points	Invasive Species D	30 points	Invasive Species C	40 points	Invasive Species D
10 points	Invasive Species A	10 points	Invasive Species A	50 points	Invasive Species E	20 points	Invasive Species B	30 points	Invasive Species C

Figure 9-4 Description of the site for competition two. (Each grid measures 10 × 20 cm.)



Note:, the invasive species A (Javan Myna) is 10 points, the invasive species B (Apple Snail) is 20 points, the invasive species C (Spot-legged Tree Frog) is 30 points, the invasive species D (Red Imported Fire Ant) is 40 points, and the invasive species E (Green Iguana) is 50 points.

(3) Contestants must shoot from the preparation area behind the red starting line. A

shot is only valid if the bullet leaves the launcher behind this line. If a shot is invalid, it will not be scored. The judge will leave the bullet on the competition area, and it will not be repositioned.

- (4) The maximum competition time is 90 seconds. The game ends immediately once all bullets have been fired. Points are awarded based on the final positions of the bullets when the time expires. If one bullet hits another, both will be scored based on their final positions.
- (5) Each scoring square can be scored multiple times. If a bullet does not land in a target area or falls outside the competition map, it receives 0 points. If a bullet lands on a line or crosses into an adjacent area, the score will be based on the area with the highest point value.
- (6) Teams can request a 30-second repair period if they detect an issue with the launcher before the competition. The 90-second countdown will start after this period, regardless of whether the issue is resolved.
- (7) The launcher will be weighed before the competition, and this weight will be used as a tie-breaker.

9.5. Ranking Criteria

- 9.5.1. This competition uses a point-based ranking system. In the event of a tie in points, the rankings will be determined by the following sequence:

Sequence order	Sequence item
1	Total combined score of both competitions
2	Score of Competition Two
3	Score of Competition One
4	Total weight of the two devices, with the lower weight being the winner

10. GreenMech Jr. – Programmer Competition Rules

10.1. Contest Theme: Forest Guardian -A sustainable journey to protect terrestrial ecosystem

10.2. Event Schedule

Time	Item	Remarks
13:30-13:50	Check-in and Material Inspection	Teams may bring up to three Base Units, but all device memories must be erased during inspection. No code cards, map cards, or block components should be pre-assembled.
13:50-14:00 (10 minutes)	Rules Reminder	
14:00-15:40 (100 minutes)	Official Competition Time	1. Teams will draw lots to determine goals for Mission 5 and have 15 minutes to practice. 2. After each team has practiced for 15 minutes, they must disassemble the map cards. Teams may only reassemble the map cards on the competition area when the competition time officially begins. 3. The competition lasts for 6 minutes. During this time, contestants may assemble the map cards and code cards, and their robots can enter the competition area to score points. The clock will not stop during this period. Competitors are also allowed to consult their reference materials.
15:40-16:10 (30 minutes)	Grading Time	

16:10~	Awards Ceremony	
--------	-----------------	--

*Competition Process Breakdown:

Process	Time	Location	Remark
Lot drawing (individual team)	Before the practice time	Preparation Area	Draw the target positions for mission 5.
Practice time (individual team)	15 minutes	Preparation Area	Teams can assemble the blocks and write programs.
Competition time (individual team)	6 minutes	Contest Area	Teams can place and assemble map cards. Teams can write and read the programs. One robot can score points. (Map cards should be disassembled before the competition begins.)

10.2.1 Important Note: If a team is late due to a force majeure factor, they may still join the competition but will not receive any time extension or regulation changes. They can only participate in the remaining unspent time.

10.3. Material Specifications

10.3.1 The competition map is standardized for all teams. Other required items must be prepared by the participating teams and must be disassembled. Teams are not permitted to preassemble any parts of the robot body. The C-ROBOTIC BASE UNIT may not be modified. Violation of this rule will result in disqualification.

10.4. Contest Method

10.4.1. Robot Specifications

- 1) Each team can use up to three Base Units. Each robot has a size limit of 15 cm x 15 cm in length and width.

- 2) Only one robot can be in the competition area during a mission. Off-competition area robots can be prepared to read programs while another is operating.
- 3) If an error occurs, a team can ask a judge for permission to retrieve the robot, but the competition timer will not stop.
- 4) After a program is executed or re-read, the robot must restart from the Start Area.

10.4.2. Contest Descriptions

10.4.2.1. Mission Background :

Q-bi-chan and A-ban, as passionate forest guardians, shoulder the crucial responsibility of protecting the forests! In "Forest Guardians," they will delve deep into the rich and diverse terrestrial ecosystem, embarking on an adventure to protect nature and conserve wildlife. Their mission to protect precious endemic species will also require them to find a balance between sustainable ecosystems and human economic development.

10.4.2.2. Site Specification

The competition area is a 240 x 120 cm map printed on matte PP photo paper, with each space being 15 x 15cm. Teams have 6 minutes to complete their missions, which includes arranging map cards and writing programs. The competition cannot be stopped or paused once it begins.



Competition Map

			Detention Center				Forest Fire			Conservation Center	Base Map -Blue		
	→ Base Map - Green								Tribe A		↑		
										Plant Arrangement			
Build a protected area						→ Base Map -Red							
		Tribe B	Biological Corridor									Water Source Management	
Water Supply Station			Conservation Center								Detention Center	Water Supply Station	Tribe C
					Design A Habitat		Start						

Competition Map

10.4.2.3. General Missions

Each robot begins in the START area, where teams plan their own robot routes. Within the time limit, each team may freely choose which scoring missions to complete, stepping into the role of a true “Forest Guardian.”

Draw: Fifteen minutes before the competition begins, each team will draw lots to determine the block positions of their five invasive species and five native species tasks. Teams will then have the full 15 minutes in their designated preparation area to get ready for the competition.

1. **Mission One:** Habitat Restoration Expert

- Description: The robot must navigate to four habitat restoration areas—“Build a Protected Area,” “Plant Arrangement,” “Design a Habitat,” and “Water Source Management”—and perform a specified action to restore habitats and earn points.
- Scoring:
 - The team earns 5 points for each area where the robot rotates in a circle.
 - An additional 5 points are awarded for completing all four areas, for a total of 25 points.

2. **Mission Two:** Boosting Eco-Tourism

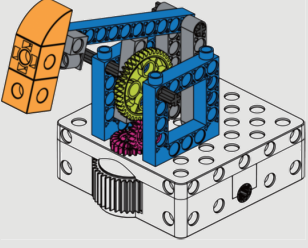
- Description: The robot must navigate through three Aboriginal tribal regions (Areas A, B, and C) and perform specific actions in each to earn points.
- Scoring:
 - The robot must emit red, yellow, and blue lights in sequence in Areas A, B, and C.
 - Completing one area earns 5 points, two areas earn 12 points, and all three areas earn 20 points.

3. **Mission Three:** Cracking Down on Illegal Poaching

- Description: The robot must perform designated actions at three base map card locations to represent pursuing poachers. The mission is completed by raising the victory flag. **Note: The green base card can only be unlocked after completing the designated actions for both the red and blue base cards.**
- Scoring:
 - Red and Blue Base Map Cards: The robot must produce a red and blue flashing light effect to simulate an emergency. (2 points). The robot must perform a continuous, vertical pounding action at least two times. (5 points).

- Green Base Map Card: The robot earns 2 points for activating the green light and 5 points for raising the flag using a self-made lifting mechanism. The flag must move vertically to earn points, that is, points are awarded if the flag moves vertically upward. Teams may bring their own tools (scissors, cotton string, double-sided tape) to modify the flag, but these tools cannot be used for any other missions. The flag is provided by the organizer, and teams must attach it to their lifting mechanism.

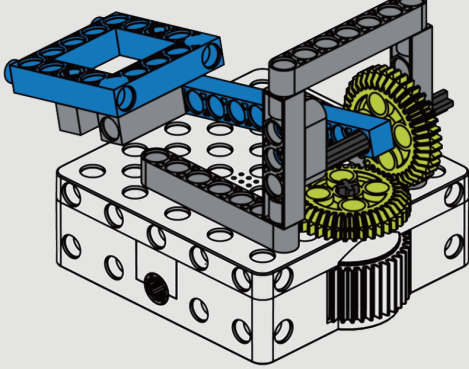
Note: For this green base map card mission, teams may bring their own tools such as scissors, cotton string and double-sided tape to modify the flag. These tools are not allowed to be used for any other missions.

	
The hammering mechanism example is provided for reference; you are free to create your own.	The flag surface of the self-made ascending mechanism is as shown in the image above (front and back sides). The organizer only provides the flag.(5 × 4 cm)

4. Mission Four: Extinguishing Forest Fires

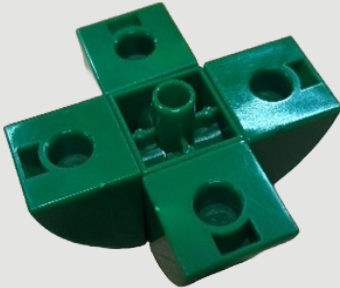
- Description: The robot must obtain water (represented by a 4x4 cm block) from a "Water Supply Station" and pour it into the "Forest Fire" area to extinguish the flames.
- Scoring:
 - The team earns 5 points each time a water source block is successfully placed in the fire area. This task can be scored multiple times during the competition. (Note: Points are awarded as long as a base map card is used and the mechanism or motor moves the water block, causing its orthographic projection to enter the scoring area.)
 - The robot can only place the water block on its back after entering the "Water Supply Station".
 - Notes: If a water source block falls during transport, no points are deducted, but the block must be returned to the "Water Supply Station" to be re-placed.
- Point Deductions:

- A 5-point penalty is deducted each time a water source block is placed outside the designated area.
- A 10-point penalty is deducted each time the robot enters the forest fire area without bringing a water source block. This can be deducted repeatedly.

	
The water transport mechanism example is for reference; feel free to create your own design.	Example of water source block

5. **Mission Five:** Eradicating Invasive Species

- Description: The robot must sort invasive species (red blocks) into the "Detention Center" and native species (green blocks) into the "Conservation Center".
- Scoring:
 - There are six red and six green blocks.
 - Each correctly placed block earns 5 points.
 - A 2-point penalty is deducted for each block placed in the wrong area.
- **Competition Draw:** Before the competition, each team draws lots to determine the starting positions for the 12 species within the biological corridor.

	
Invasive species (red)	Native species (green)

10.5. Scoring Criteria

- 1) The total ranking is determined by the overall score.
- 2) In the event of a tie score, rankings are determined by the scores of the missions in the following order: Mission 5, Mission 4, Mission 3, Mission 1, and Mission 2.
- 3) If scores are still tied, the team with the lowest total contest time will rank higher.
- 4) If a tie still prevents a clear distinction for gold, silver, or bronze awards, teams will participate in a tie-breaker round for Mission 5. This will consist of a 3-minute preparation period and a 2-minute competition time.

Sequence Order	Sequence Item
1	Total score
2	Mission 5 score
3	Mission 4 score
4	Mission 3 score
5	Mission 1 score
6	Mission 2 score
7	Competition Time (Total contest time, where lowest is best.)
8	In the event of a tie score preventing the clear distinction of gold, silver, or bronze awards, teams will proceed to a tie-breaker round for Mission 5 (Eliminating Invasive Species). There will be a 3-minute preparation period, followed by a 2-minute competition time.

11. Appendix & Forms

11.5. Certificate of Student Enrollment

2026 World GreenMech Contest - Certificate of Student Enrollment

Team Name				
Contest	☐ GreenMech	☐ R4M	☐ GreenMech Junior	
Group	☐ Basic	☐ Advanced	☐ Jr. Science	☐ Jr. Programmer
Category	☐ Elementary School (including Kindergarten) School		☐ Junior High School	☐ Senior High
Photo	(Clear Photo of the face)	(Clear Photo of the face)	(Clear Photo of the face)	(Clear Photo of the face)
Student Name				
School				
Grade				
Date of Birth				
I certify that the above students are still studying in our school and the above information is correct.				
Case Officer:	Direct of Academic Affairs:		Principal:	

11.6. Appeal Form

2026 World GreenMech Contest - Appeal Form

Contest	☐ GreenMech ☐ R4M ☐ GreenMech Junior
Group	☐ Basic ☐ Advanced ☐ Jr. Science ☐ Jr. Programmer
Team Name	
Plaintiff	
Appeal Details	
Case Officer	
Resolution	
Plaintiff Signature	
Notes: - Those who do not complete this appeal form will not be processed/accepted.. - After the judge has understood the situation and made a ruling, they must complete the section marked "Resolution" and explain the remaining process to the plaintiff. If the plaintiff is still dissatisfied with the result of the treatment and refuses to sign, the judge may add a "refusal" in the "Plaintiff Signature" field. - Teams must communicate politely with judges and organizers. A second warning incurs a penalty, and a third leads to disqualification.	

