Construction LEGO WEDO Rules

Introduction: LEGO WEDO is the beginning for LEGO robot beginners to experience the fun of robot programming. Construction Lego WEDO takes imagination, creativity, teamwork, structure construction and programming ideas as its research direction, and According to the research theme of the year, the referee assesses the score of the team on the spot.

Group: ≤ Grade 3

Rule revision **v3-2024.2.27**

Revised 2.1 C equipment usage specifications.

Revision 3.2 D: Each participating team will have 40 minutes to complete the robot construction and programming work before the defense.

Rule Revision **v2-2021.7.25**

Revise the requirements of 2.1, 2.3 and 3.2, and explain the referee's scoring points.

Rule Revision **v1-2020.08.04**

The rules of the event were created

1 Team member requirements

A. ≤ Grade 3

2 Robot requirements

2.1 Robotic equipment requirements

A. The participating equipment is limited to Lego WEDO robot suit, and the number of equipment in the suit is not limited.

B. Complete robot works are not allowed to enter the competition field. Robot parts are required. During the competition, the works are built on site, and the referee will check the entrance equipment.

C. **When using the mechanical structure, mechanical transmission, smart events, and sensors of the work, parts other than the LEGO WEDO set are not allowed to be used (the types of parts included in the LEGO WEDO set are not limited to their colors, for example: there are green 13 in the set For the hole nail beam, you can use other nail beams of the same length and color in the LEGO set). For items defined as decorative or auxiliary items, parts from non-LEGO WEDO sets such as acrylic and KT boards can be used. If the mechanical structure, mechanical transmission, intelligent events, and sensor use of the work contain non-LEGO WEDO equipment, the first 2-point weight of the scoring item 6, Robot Design, will be 0 points.**

D. It is allowed to bring computers, backboards, roll up, posters, monitors and other promotional items as promotional items for the competition.

2.2 Robot specification requirements

A. The exhibition area of the entries is 0.6m * 1.5m, and the robot works need to meet this space requirement.

2.3 Requirements for robot works

A. Entries must be in line with the theme of the ROBOBOOM season contest. If it does not conform to the theme, in the scoring table，the scores of item 1 (Thematic assessment) is 0，and the scores of item 2 (Concept and creativity of the project) is less than 3.

B. Entries must contain at least one programmable robot construct and be able to complete at least two robotic intelligence events, and meet the requirements of the theme of the work.

C. Items other than LEGO WEDO devices shall not be added to the structure of the work. The outer frame of the work allows unrestricted equipment to enrich the work, such as the outer frame and roof frame showing the space environment of the work.

3 Rules of the game

3.1 The theme of the competition

A. The theme of the 2022-2023 ROBOBOOM- Construction LEGO WEDO Competition is "Science and Technology Help Agriculture". In the face of the global food crisis, we hope the young players will open

Expand your thinking, give full play to your imagination, and give your scientific and technological assistance plan from the aspects of agricultural products planting, agricultural products picking, agricultural products transportation, and agricultural products processing.

B. The entries should be closely related to the theme design.

3.2 Entry requirements

A. In this competition, the parents of a team member will be invited to participate in the competition together. Before the competition, the parents of the team will be given the certificate of "auxiliary construction". Note that the parents are only allowed to be responsible for physical work, order management and cooperation of the team members on the spot, and are not allowed to participate in the construction and programming of the robot structure. If the referee finds that the parents are involved in the robot production, in the scoring table, the score point of item 10 is 0

B. If the team's posters, brochures and other promotional materials are not prepared, in the scoring table, the score point of item 4.2 is 0.

C. If team members cannot clearly explain the division of labor and tasks, in the scoring table, the score point of item 5 is less than 3.

D. Each participating team will have 40 minutes to complete the robot construction and programming work before the defense.

E. When presenting intelligent events of works, if there is a problem, the referee can give 2-3 chances to demonstrate again. If all three demonstrations fail, in the scoring table, the score point of item 3 is up to 2 Points.

F. Team members are not allowed to leave the competition area during the competition.

3.3 Referee's reply

The total presentation time of each team is 5 minutes. It is divided into two parts.

Part 1: Narration of team members' works (limited to 3 minutes)

a. Team introduction (introduction of each team member and division of labor)

b. The title of the work and the theme of the work are integrated into the introduction.

c. Introduction to the function, innovation and practicability of the work

d. Team members introduce their respective division of labor.

e. **Self-narration of works can take the form of speech, performance, singing, and express works in different forms. Welcome the team members to show their works to the referees through rich forms of expression.**

Part 2: Demonstration of works and answers to judges' questions (about 2 minutes)

a. At the request of the referee, the team members cooperate with the demonstration works and the demonstration instructions.

b. The referee can ask questions to the team members according to the temporary questions of the scoring points in the aspects of innovation, technology and practical function of the works, and get the team members'replies.

For the presentation of each team mentioned above, the team members' self-statement should be based on the timing requirements of the referee.

a. Each team is requested to prepare their own works and prepare for the demonstration of their works.

b. Referees will assess their works in terms of theme investigation, work creativity, robot production, intelligent events, robot structure, program logic, technological innovation and teamwork.

c. The average score of the total score of a team assessed by several referees is the final score of the team and is ranked.

4 Award setting

The competition will have one gold, silver and bronze medal team each, as well as first, second and third place prizes.

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Construction LEGO WEDO Scoreboard

Team ID:

Scoring rules: (*) Judgement scoring

5: Very good-excellent, advanced, exemplary, or amazing

4: Thumbs Up-Good, Accomplishable or Proficient

3: Average-average, intermediate, still acceptable

2: To be improved-tentative, but still need to continue to explore

1: Not good-unfinished, needs a lot of help

Judge Item	Details	Weight	Score 0 ~ 5
1. Thematic assessment	Does the entry stick to the theme of the season.	2	
2. Concept and creativity of the project	The project concept is very original and shows impressive creative thinking and problem solving skills.	2	
3. Project presentation	There was nothing wrong with the robot demo and it was impressive.	2	
4. Project introduction	The project presentation was clear, well organized and communicated effectively. He is very polite to the audience. When the robot didn't reach to the expected effect, the team members performed professionally.	1	
	Team posters, brochures, and information are clear, well designed, and able to be understood by novice robots.	1	
5. Team work	The roles of team members are clearly described. The division of labor is balanced and reasonable, and information sharing is smooth. Be endowed with the spirit of cooperation. Team Members cooperate with each other and respect each other	1	
	Teamwork and team spirit are obvious. Note: If the team has only one member, the score should be 1	1	
6. Robot design	After inspecting and testing the robot, the mechanical design of the robot is creative, efficient, user-friendly, and robust solid	2	
	The robot design meets the requirements, with 1 robot and 2 intelligent events.	2	
7. Project complexity	The project is complex, with multiple features/functions, sensors, and components	1	
8. Practicality	The project demonstrates team members' practical and effective problem solving skills that inspire teammates to achieve a goal.	1	
9. Programming	The team will be asked about a portion of the programming code that the team fully understands and is well organized about and comment	2	
10. Independence	Based on the referees' observations and discussions, it is believed that the program was designed, developed, and programmed primarily by students, not by adult coaches, parents, or tutors. Students were able to explain them clearly and confidently.	2	
Total score			