



FOOD MATTERS

سوريا ٢٠١٨

المسابقة الوطنية لأولمبياد الروبوت العالمي

٢٦-٢٧-٢٨/٨/٢٠١٨



Syrian Computer Society
الجمعية العلمية السورية للمعلوماتية

The background is a solid green color with a pattern of light green geometric shapes. These shapes include squares, circles, and crosses, some of which are slightly rotated or offset from the grid. The text is centered in the middle of the image.

WRO Syria 2018

World Robot Olympiad

WRO 2018 Competition

Regular

10 - 19 years

Open

10 - 19 years

Football

10 - 19 years

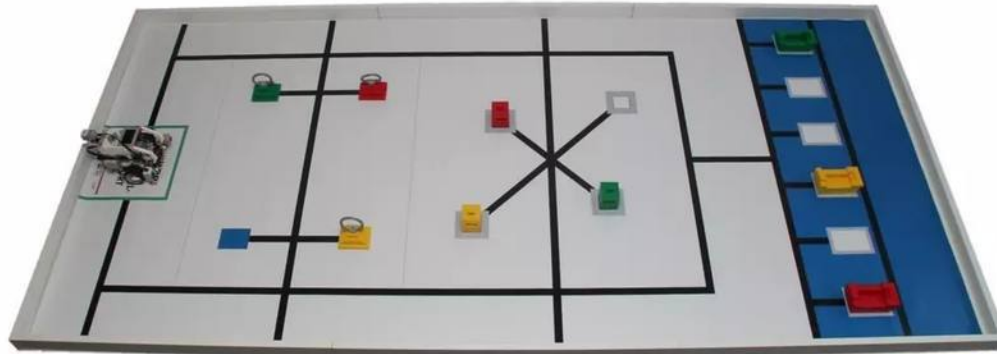
University

19 - 25 years

Regular

× WRO: World Robot Olympiad

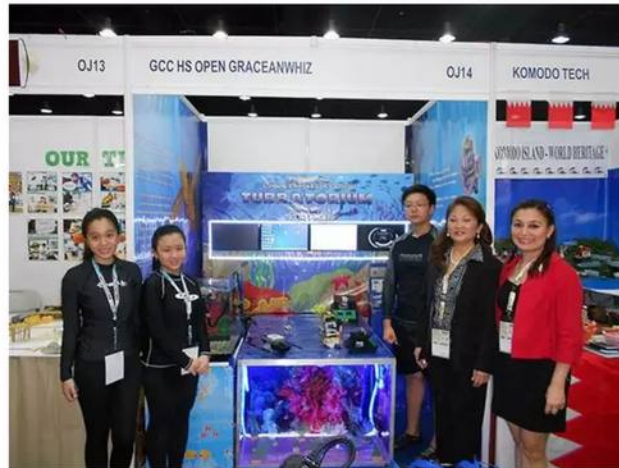
- × **Elementary** Participants maximum 12 years old in the year of competition.
- × **Junior** Participants 13 – 15 years old in the year of competition.
- × **Senior** Participants 16 – 19 years old in the year of competition.



OPEN

× WRO: World Robot Olympiad

- × **Elementary** Participants maximum 12 years old in the year of competition.
- × **Junior** Participants 13 – 15 years old in the year of competition.
- × **Senior** Participants 16 – 19 years old in the year of competition.



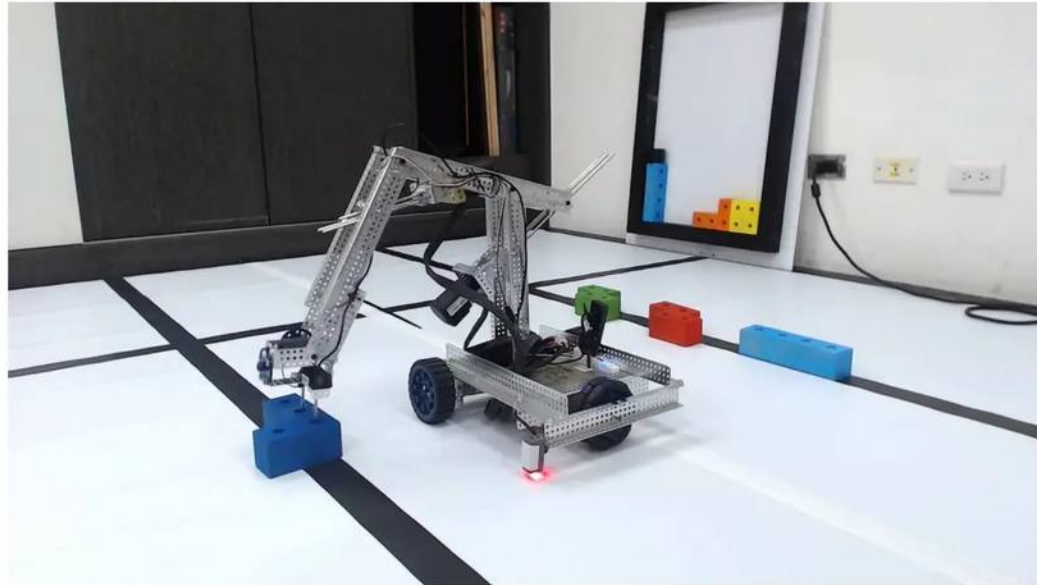
Football

- ✕ WRO: World Robot Olympiad
 - ✕ Participants 10 - 19 years old in the year of competition.



Advanced Robotics Challenge

- ✕ **WRO:** World Robot Olympiad
 - ✕ High School or Undergraduate students 17 - 25 years old in the year of competition.



WRO 2018 Competition

Regular

10 - 19 years

Open

10 - 19 years

Football

10 - 19 years

University

19 - 25 years

The background is a solid green color with a pattern of light green geometric shapes. These shapes include squares with internal squares, circles with internal circles, and plus signs, all scattered across the frame. The text is centered in the middle of the image.

Video WRO Syria 2017

General Roles - Material

- 2.1. The controller, motors and sensors used to assemble robots must be from LEGO® MINDSTORMS™ sets (NXT or EV3). The **HiTechnic Color Sensor** is the only third party element that can be added to this configuration.
 - 2.2. **Only LEGO branded** elements may be used to construct the remaining parts of the robot.
 - 2.3. Teams should prepare and **bring all the equipment**, software and portable computers they need during the tournament.
 - 2.4. Teams **should bring enough spare parts**. the council (and/or organizing committee) is **not responsible** for their maintenance or replacement.
 - 2.5. **Coaches are not allowed** to enter the court to provide any instructions and guidance during the competition.
 - 2.6. All the parts for the robot should be **disassembled**.
 - 2.7. Teams may not use any instruction sheets/guides to assemble their robot, whether written, illustrated or pictorial no matter what format they are in (**including paper-based and digital**).
 - 2.8. Teams may make the program beforehand.
 - 2.9. It is not allowed to use screws, glues or tape or any **other Non-LEGO** material to fasten any components on robots. Non-compliance with these rules will result in disqualification.
 - 2.10. Control software depends on the age group: a. For Elementary and Junior age group only **ROBOLAB®, NXT® and EV3 software** is allowed. b. In the Senior age group it is allowed to **run any software** and any firmware on **NXT / EV3 controllers**.
 - 2.11. The motors and the sensors for the robot are supplied by **LEGO® and HiTechnic**.
- Any other products are not allowed. Teams are not allowed to modify any original parts

General Roles - Material

	9842 - NXT Motor with Tacho
	9843 - NXT Touch Sensor
	9844 - NXT Light Sensor
	9845 - NXT Sound sensor
	9846 - NXT UltraSonic sensor
	9694 - NXT Colour sensor
	45502 – Large Motor
	45503 – Medium Motor
	44504 – Ultrasonic Sensor

	44506 – Color Sensor
	44507 – Touch Sensor
	44509 – Infrared Sensor
	45505 – Gyro Sensor
	HiTechnic NXT Color Sensor V2

General Roles - Regulations about the robot

- 3.1. The maximum dimensions of the robot before it starts the “mission” must be within **250mm x 250mm x250mm**. After the robot starts, the dimensions of the robot are not restricted.
- 3.2. Teams are allowed to use only **one controller** (NXT or EV3).
- 3.3. The number of motors and sensors to be used is **not restricted**. However, it is only allowed to use official LEGO® materials to connect motors and sensors.
- 3.4. It **is not allowed** for the teams to perform any actions or movements to interfere or assist the robot after the actions to start the robot is performed (the program is run or the central button is pressed to activate the robot). Teams that violate this rule will get a score of 0 in this particular run.
- 3.5. A robot must be **autonomous and finish the “missions” by itself**. Any radio communication, remote control and wired control systems are not allowed while the robot is running. Teams in violation of this rule will be disqualified and must quit the competition immediately.
- 3.6. The robot can leave on the field any parts of the robot that are not containing main units (controller, motors, sensors) if needed. As soon as the part is touching the field or its game element and does not touch the robot it is considered as a free LEGO element not being part of the robot.
- 3.7. The Bluetooth and Wi-Fi function must **be switched off** at all times. That means that the full program needs to run on the controller.
- 3.8. Use of SD cards to store programs **is allowed**. SD cards must be inserted before the robot is inspected and may not be removed for the duration of the competition once inspection is completed.

General Roles - Regulations about the robot

- 4.1. Each team must prepare for the match in their specified place until the “**check time**”, when the team’s robot must be placed in a designated area.
- 4.2. Teams cannot touch designated competition courts before the start of the “**assembly time**” is announced.
- 4.3. Judges will check the state of parts before announcing the start of the assembly time. Teams must show that their parts are separated. Team members **cannot touch** any parts or computer during this “check time”. The assembly time doesn't begin until officially announced at the event.

General Roles - Competition

- × Checking the part, other material and instruction sheet.
- × Assembly time (150 m)
- × Size measurement
- × AL hajer
- × Round #
- × Scoring
- × Repeat until the day 1 and day 2 end.

Timeline

Assembly time 1



2 m

Round 1

Assembly time 2



2 m

Round 2

Assembly time 3



2 m

Round 3

Day 1

Assembly time 1



2 m

Round 2

Assembly time 2



2 m

Round 2

Assembly time 3



2 m

Round 3

Day 2

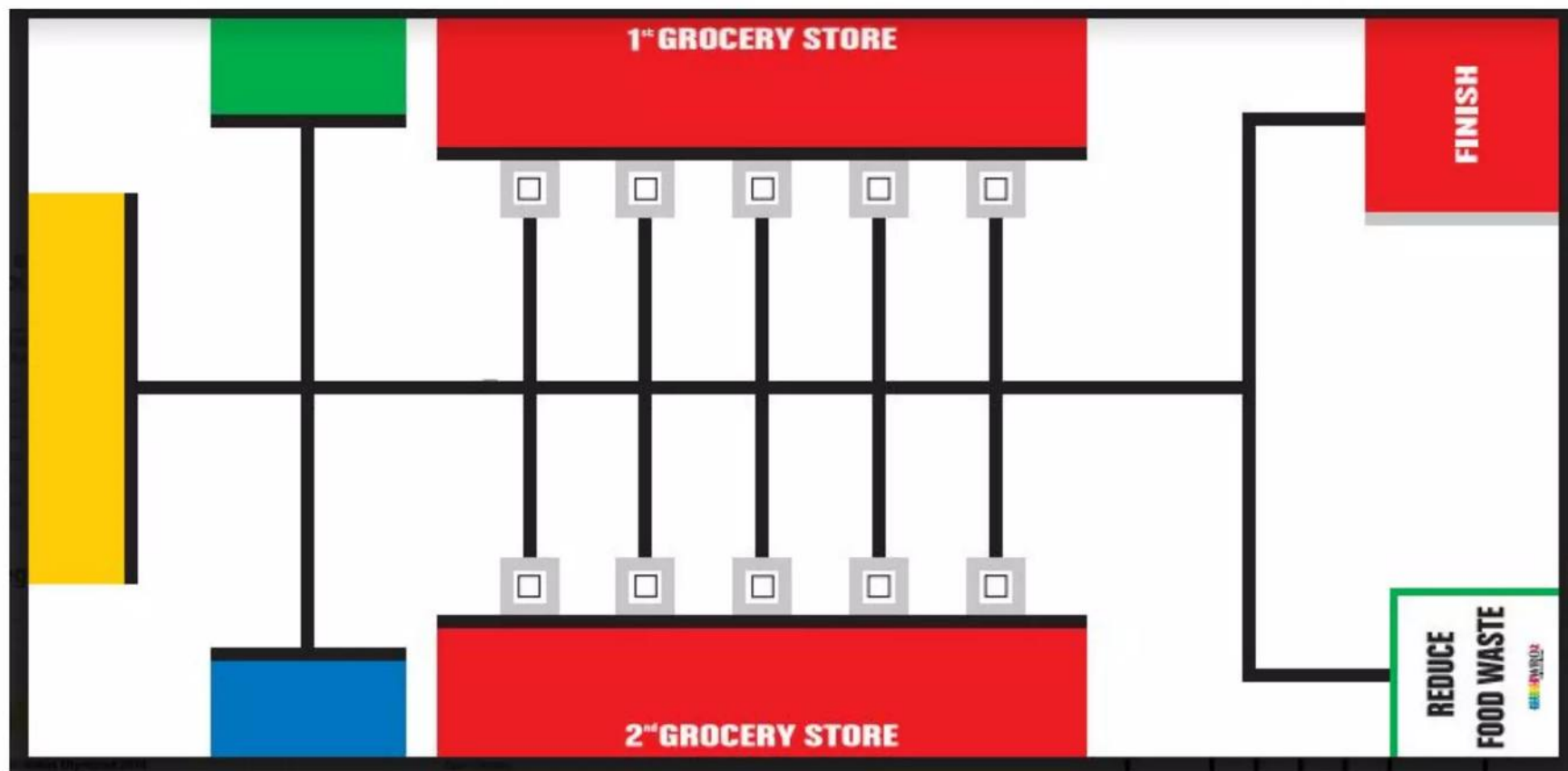


Break!

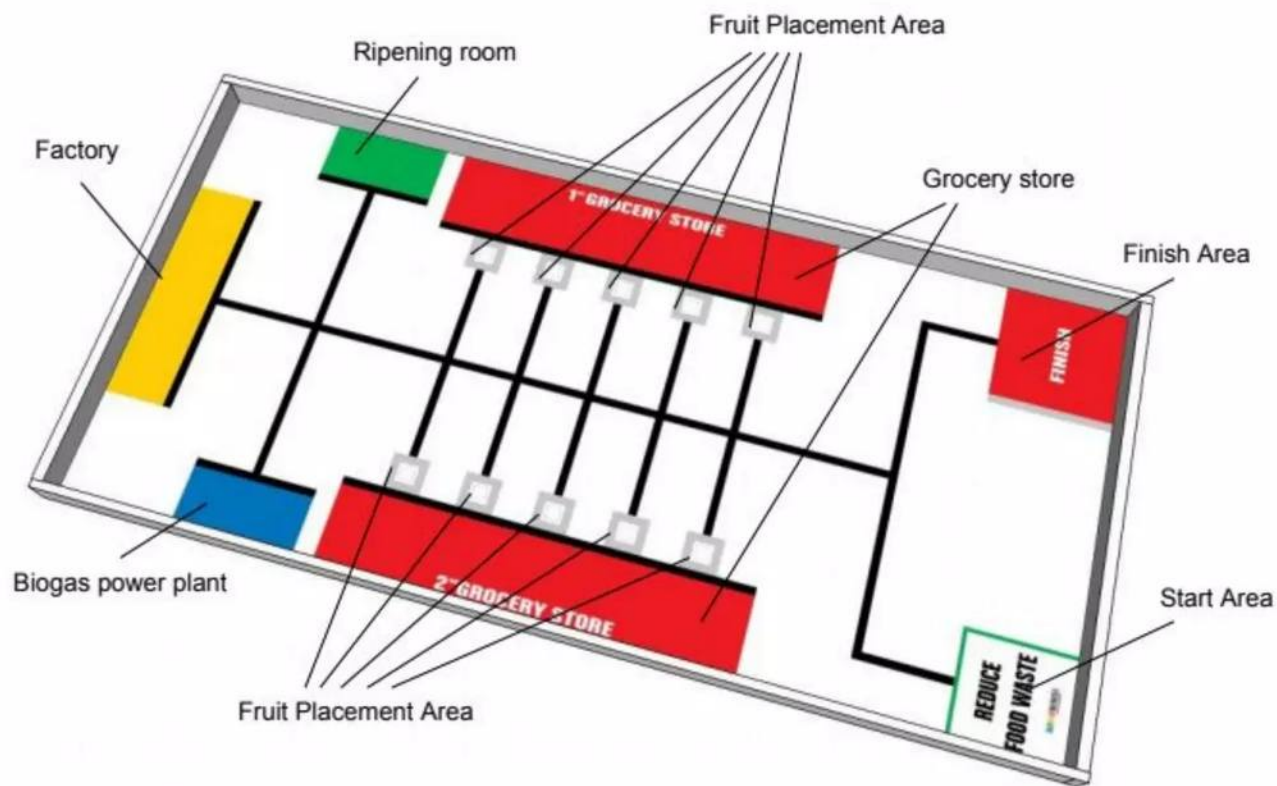


Elementary

General Roles - Elementary



General Roles - Elementary



General Roles - Elementary



Fresh Fruit (4)



Ugly Fruit (2)



Unripe Fruit (2)



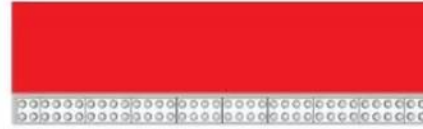
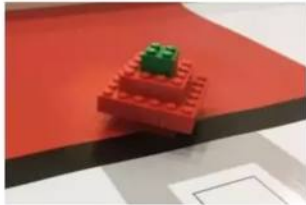
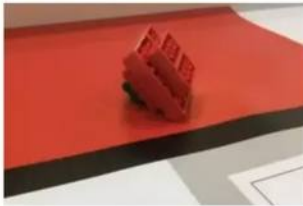
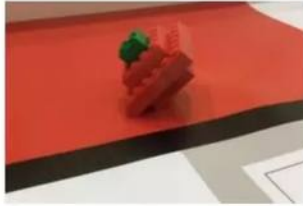
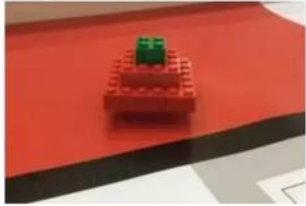
Rotten Fruit (2)

The background is a solid green color. It is decorated with various white geometric shapes scattered across the surface. These shapes include circles, squares, diamonds, and plus signs. Some of the shapes are solid, while others are hollow outlines. They are distributed in a non-uniform, random pattern.

Video

Elementary

General Roles - Elementary



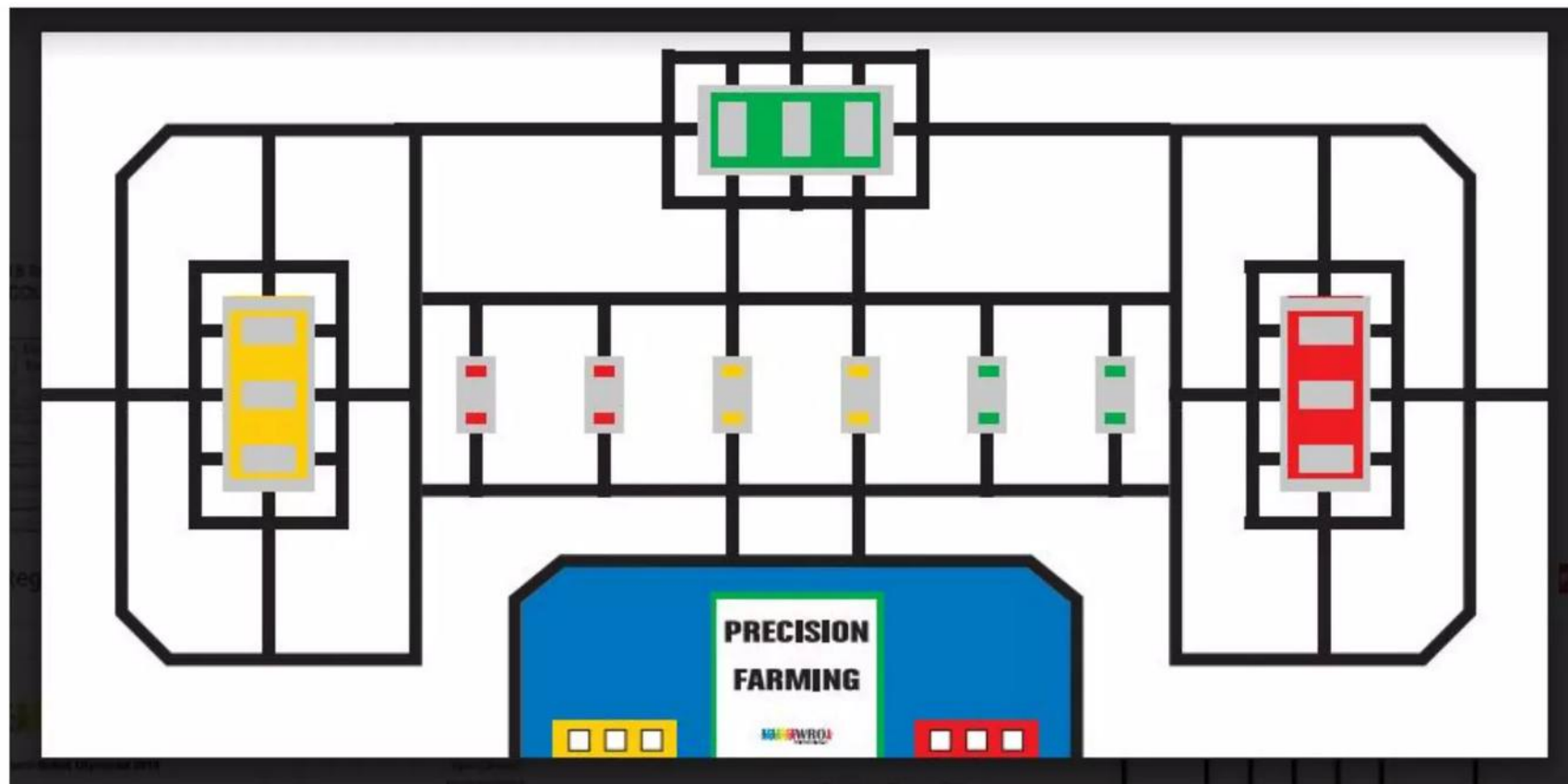
General Roles - Elementary

Task	Count	Each	Total
Fresh (red) fruit completely in a grocery (red) store	0 1 2 3 4	10	
Fresh (red) fruit partly in a grocery (red) store	0 1 2 3 4	5	
Unripe (green) fruit completely in the ripening (green) room	0 1 2	20	
Unripe (green) fruit partly in the ripening (green) room	0 1 2	5	
Ugly (yellow) fruit completely in the factory (yellow) area	0 1 2	20	
Ugly (yellow) fruit partly in the factory (yellow) area	0 1 2	5	
Rotten (blue) fruit completely in the biogas (blue) area	0 1 2	20	
Rotten (blue) fruit partly in the biogas (blue) area	0 1 2	5	
Robot ends in the red finish area and some other points earned	No Yes	10	
Robot damages/moves the white wall next to the finish (red) area	No Yes	-10	
Solve the Surprise Rule	No Yes	20	

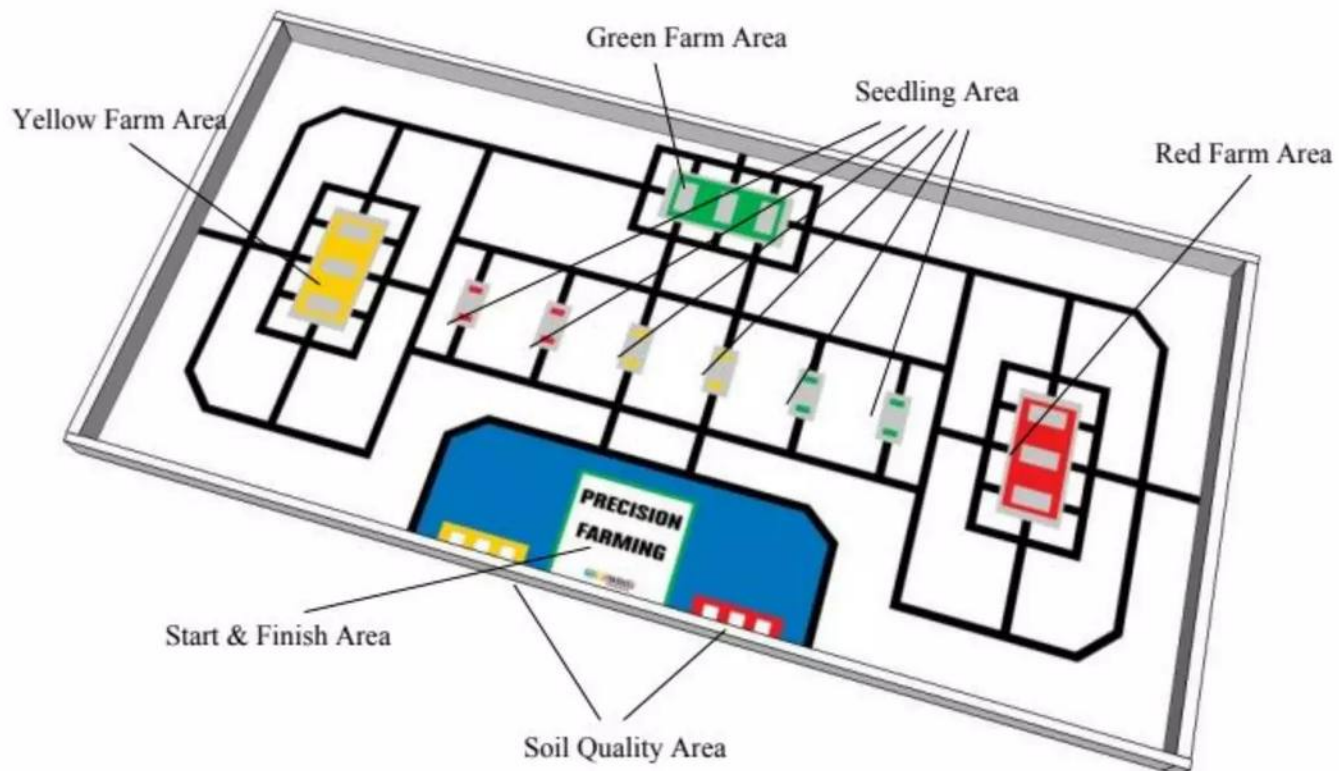


Junior

General Roles - Junior



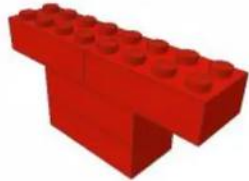
General Roles - Junior



General Roles - Junior



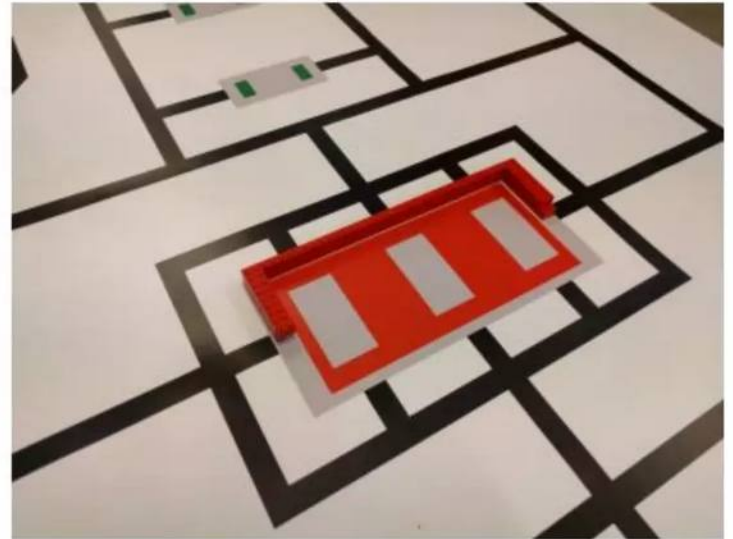
Green Plant



Red Plant



Yellow Plant



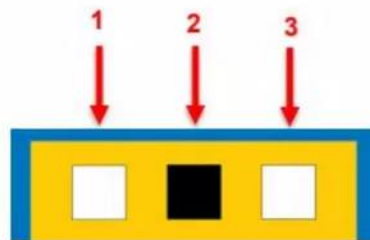
General Roles - Junior



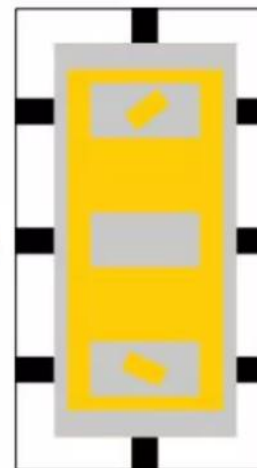
White Block



Black Block



The three LEGO Blocks of the yellow Soil Quality Data Area.



Field: 3

Field: 2

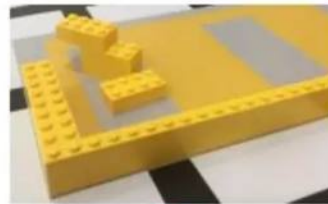
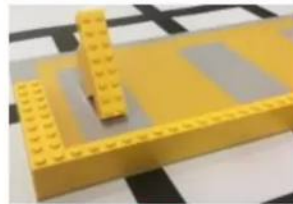
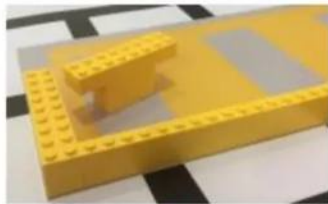
Field: 1

The background is a solid green color. It is decorated with various white geometric shapes scattered across the surface. These shapes include circles, squares, diamonds, and plus signs. Some of these shapes are hollow, while others are solid. They are distributed in a non-uniform, random pattern.

Video

Junior

General Roles - Junior



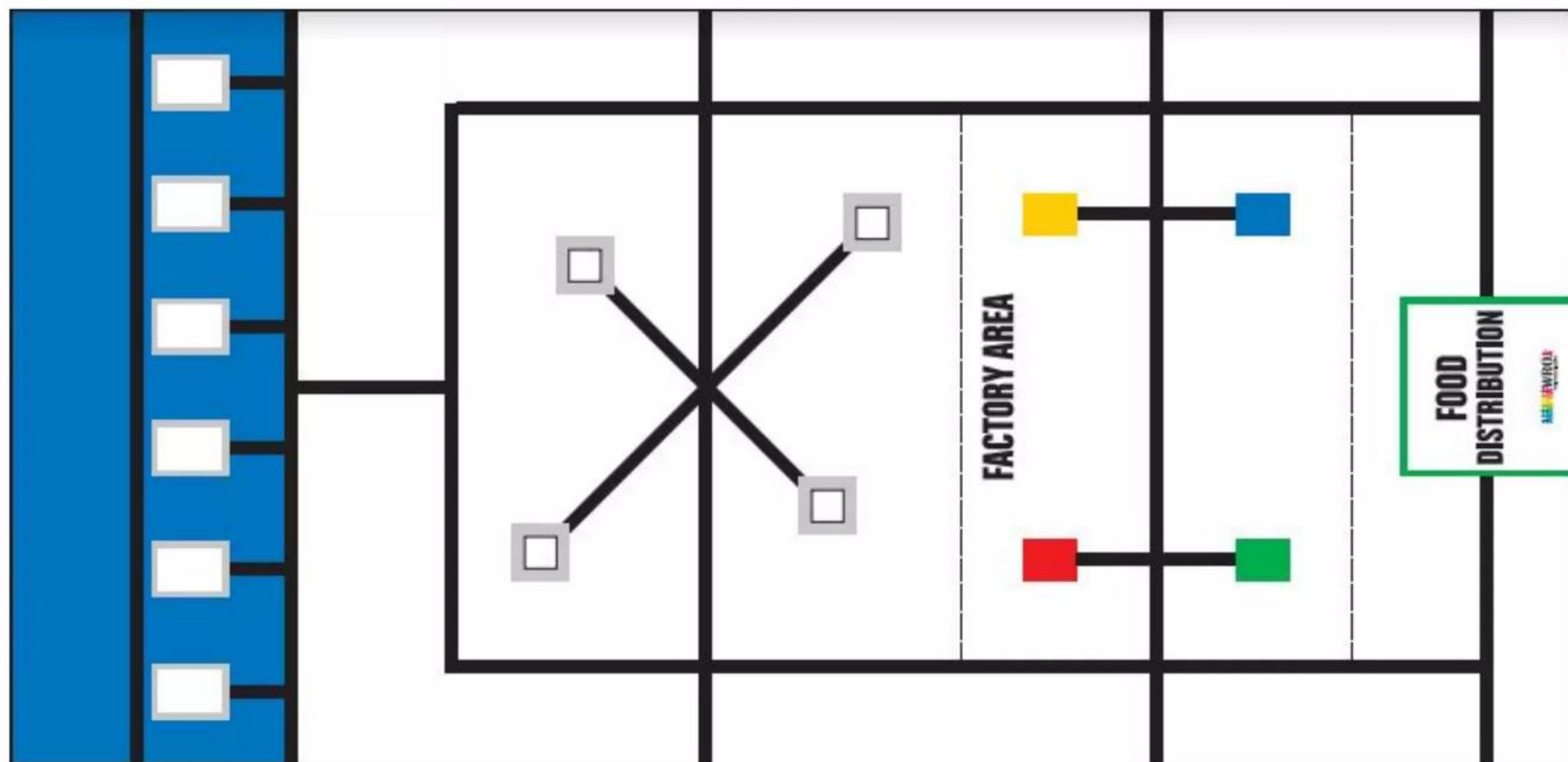
General Roles - Junior

Task	Count	Each	Total
Place a green plant completely in a green farm gray area	0 1 2 3	10	
Place a green plant partly in the green farm gray area	0 1 2 3	5	
Place a red or yellow plant completely in a quality red or yellow farm gray area	0 1 2 3 4	25	
Place a red or yellow plant partly in a quality red or yellow farm gray area	0 1 2 3 4	10	
All soil quality blocks touch their respective white squares, at least one plant earns points and no plant is in the wrong farm or in an area with poor soil quality	No Yes	25	
Remaining 5 plants touch their initial gray squares and at least one plant earns points.	No Yes	15	
Robot damages a wall or moves it from its initial position	No Yes	-5	
Robot stops completely in the start and finish area and some other points were earned	No Yes	10	
Solve the Surprise Rule	No Yes	30	

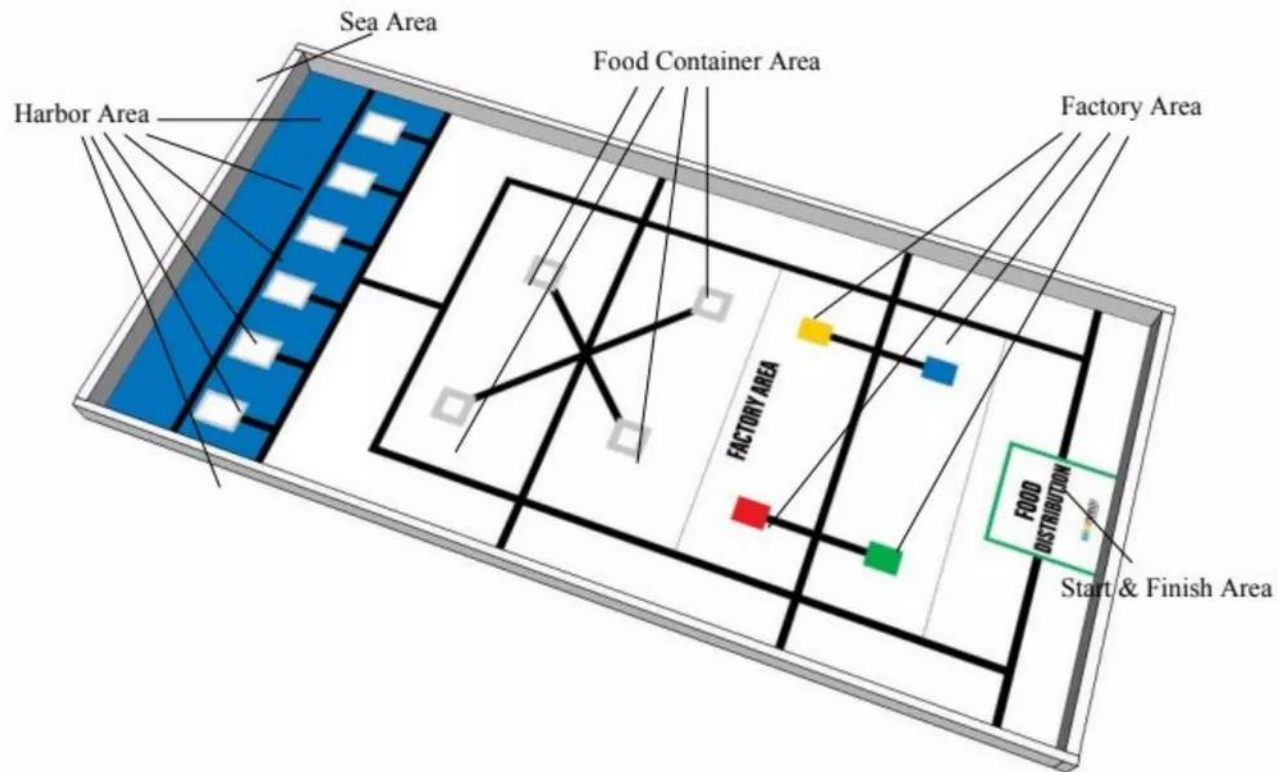


Senior

General Roles - Senior



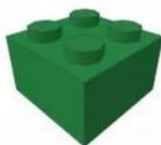
General Roles - Senior



General Roles - Senior



Blue Food



Green Food



Red Food



Yellow Food



Blue Controller



Green Controller



Red Controller



Yellow Controller



Blue Container



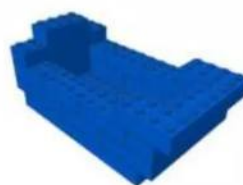
Green Container



Red Container



Yellow Container



Blue Ship



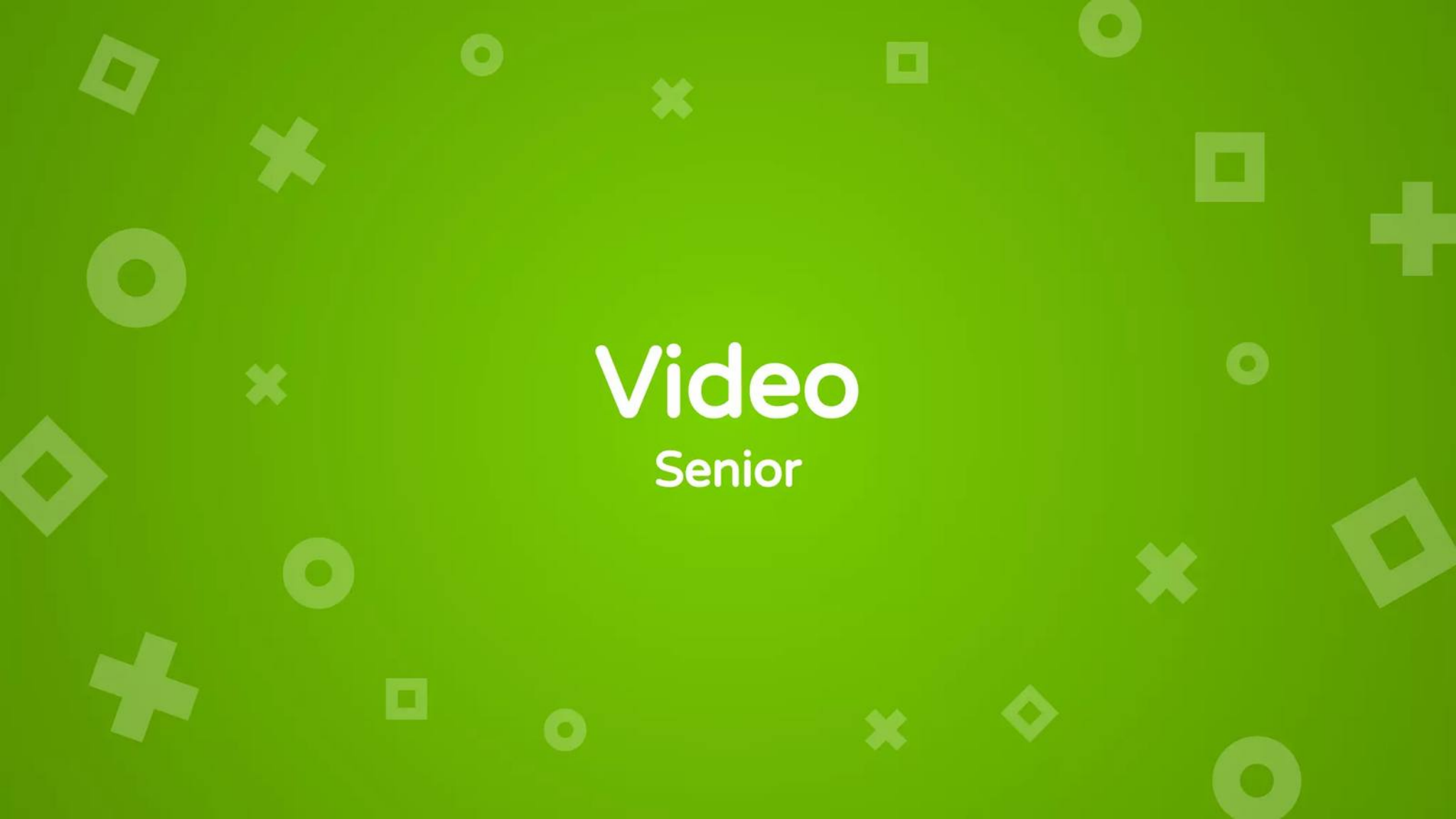
Green Ship



Red Ship



Yellow Ship

The background is a solid green color. It is decorated with various white geometric shapes scattered across the surface. These shapes include circles, squares, diamonds, and plus signs. Some of these shapes are hollow, while others are solid. They are distributed in a non-uniform, random pattern, with some appearing larger than others.

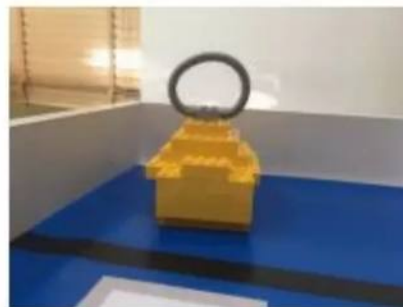
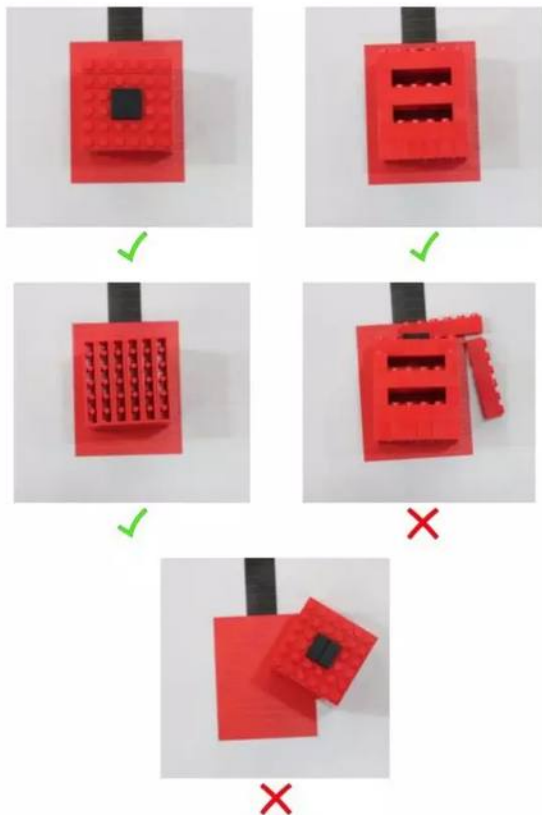
Video

Senior

General Roles - Senior



General Roles - Senior



General Roles - Senior

Task	Count	Each	Total
Food brick removed from container and lying elsewhere on the mat	0 1 2 3	5	
Food brick completely in a ship of the same color	0 1 2 3	15	
Food brick completely in a ship of a different color	0 1 2 3	5	
Undamaged temperature controller completely on a ship of the same color	0 1 2 3	20	
Undamaged temperature controller completely on a ship of a different color	0 1 2 3	5	
Undamaged ship completely in the sea area	0 1 2 3	10	
Food container completely in a factory square of the same color	0 1 2 3	10	
Food container completely in a factory square of the wrong color	0 1 2 3	5	
Robot completely in the start and finish area and other points earned	No Yes	10	
Solve the Surprise Rule	No Yes	40	

Next Meeting:

Elementary + Senior:

Junior:

<http://bit.ly/wro2018syria>