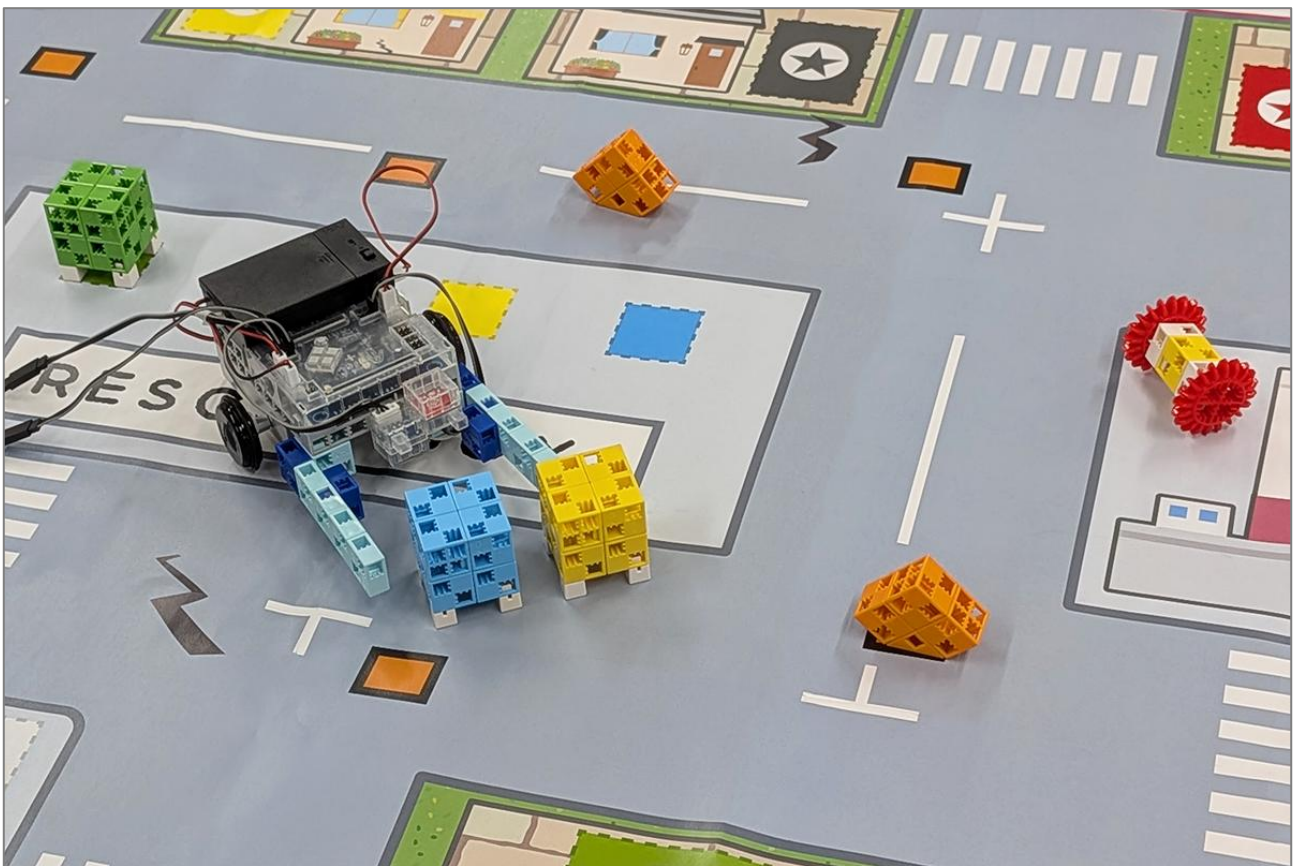


# Universal Robotics Challenge 2026

## Real Robotics Early Division Rulebook

Published April 1 (Wed), 2026



## Table of Contents

<b>Competition Overview</b> .....	2
<u>1. Relief with Rescuebots</u> .....	2
<u>2. The Field</u> .....	3
<u>3. The Missions</u> .....	3
<u>4. Competition Robots</u> .....	11
<b>Competition Flow</b> .....	13
<u>1. Before the Round</u> .....	13
<u>2. Starting the Round</u> .....	14
<u>3. Ending the Round</u> .....	15
<u>4. Scoring</u> .....	15
<u>5. Other Notes</u> .....	16
<b>Appendices</b> .....	17
<u>Appendix 1. Making the Pieces</u> .....	17
<u>Appendix 2. Competition Boards</u> .....	20
<u>Appendix 3. Electronic Parts</u> .....	21
<u>Appendix 4. Artec Blocks</u> .....	22
<u>Appendix 5. Scoring</u> .....	23

## Competition Overview

In this competition, you'll use a computer, a microcontroller, ArtecRobo parts, and Artec Blocks to make a robot.

You'll then program it any way you want to and try to win the competition!

### 1. Relief with Rescuebots

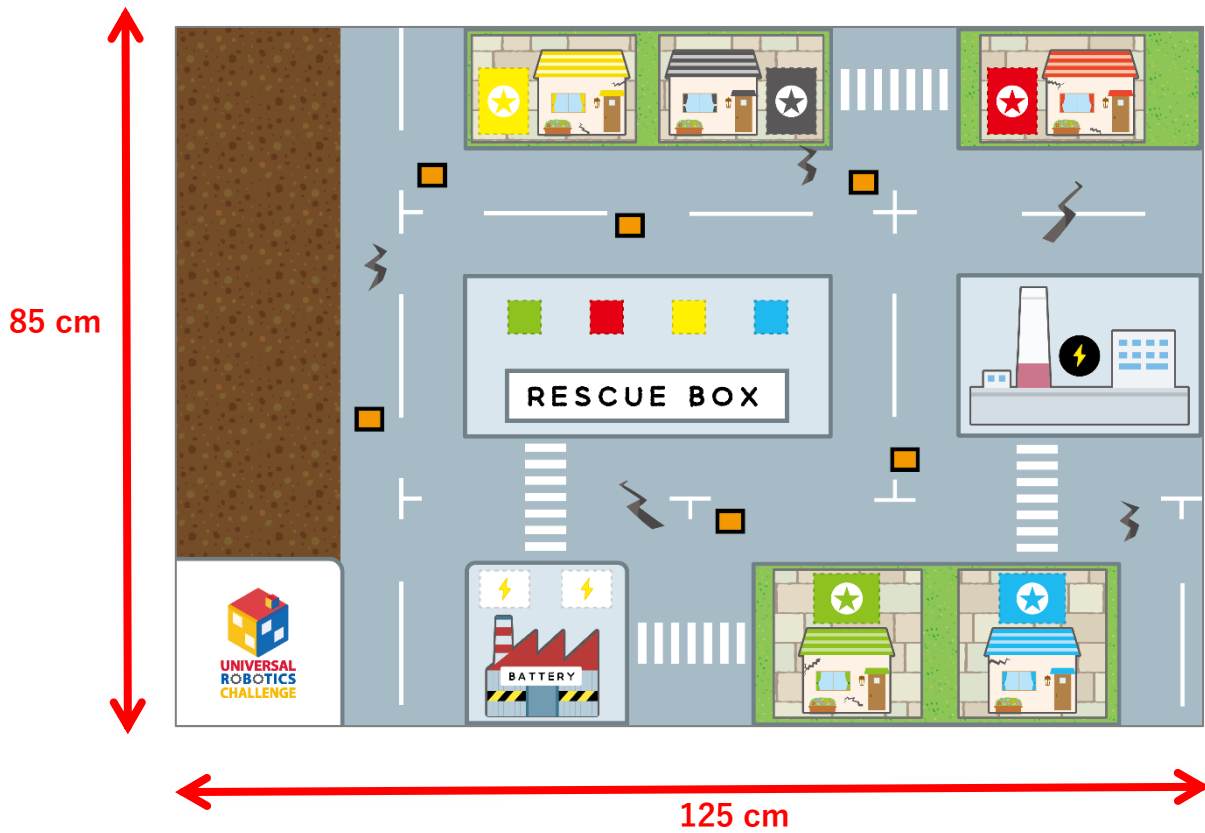
No matter where you go in the world, there are natural disasters like typhoons, monsoons, and earthquakes. When these disasters happen, we use disaster relief robots to help people. We can even use these robots to clear rubble or deliver food!

The Early Division has three missions. Participants will need to clear them all and get the highest score within the time limit!

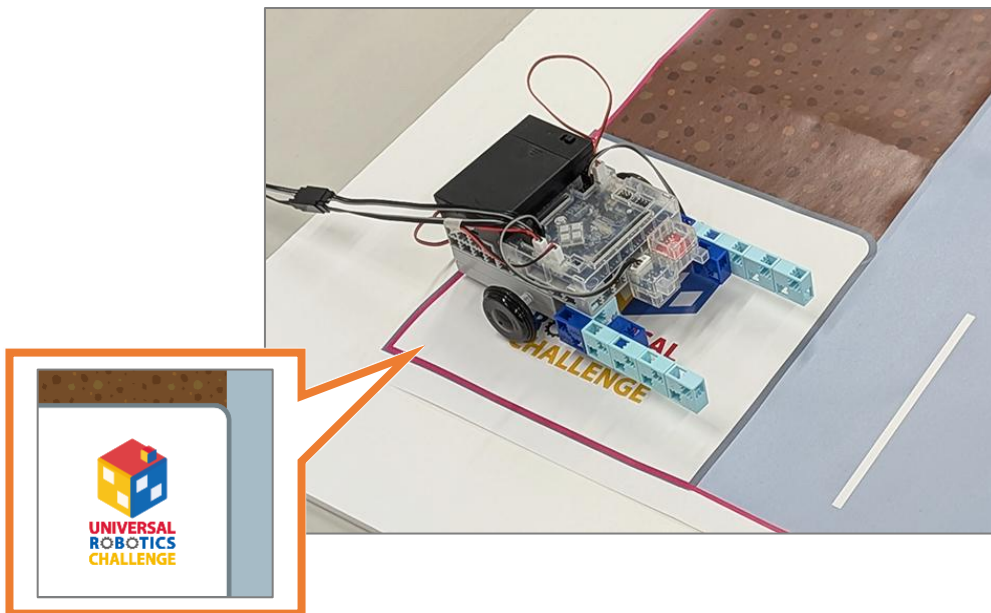


## 2. The Field

The competition uses the field shown here:



- The robot starts from the Starting Area at the bottom left!



### 3. The Missions

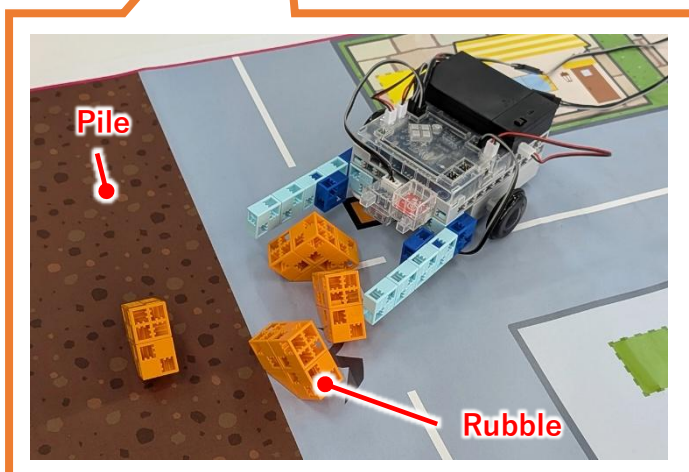
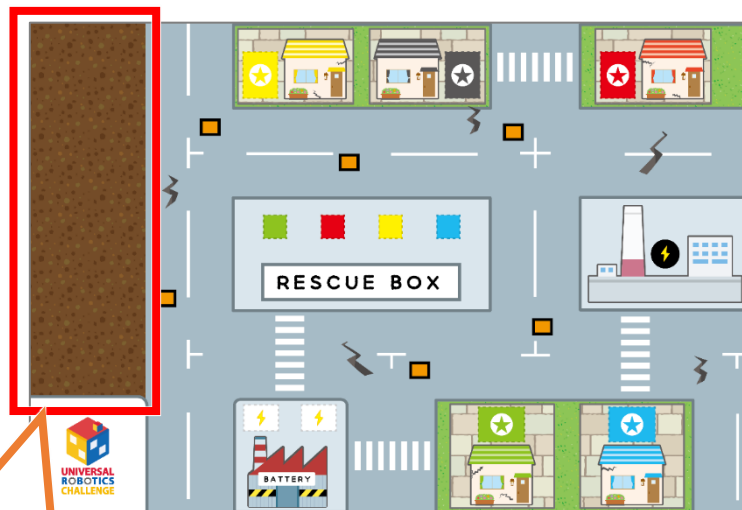
There are three missions in this competition:

- Participants can complete these missions in any order.
- They can also begin another mission in the middle of the current one.

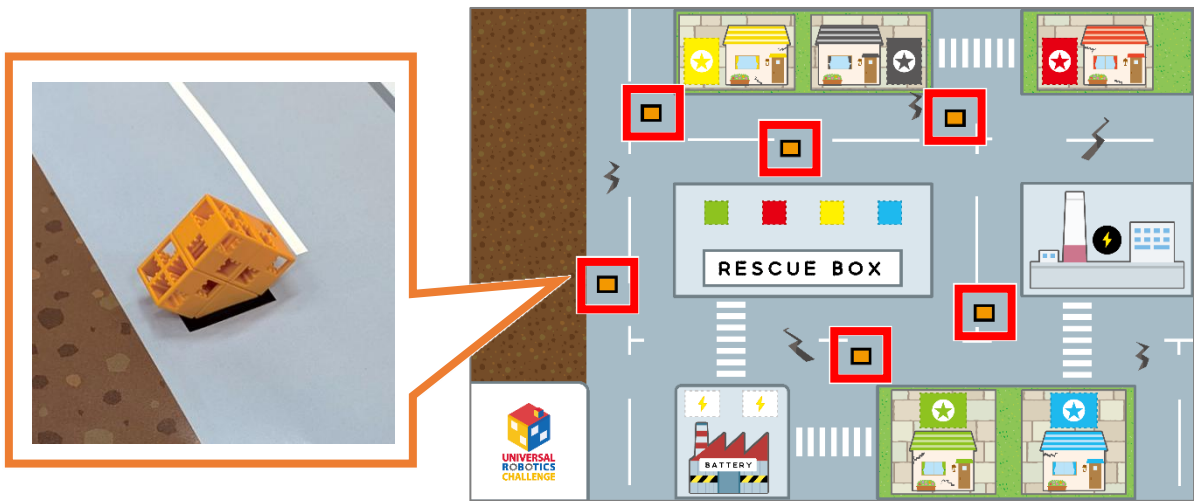
#### ○ [Mission 1] Clearing Rubble

After a disaster, rubble needs to be cleared from the road before people and vehicles can pass through. Participants will use their robot to clear it.

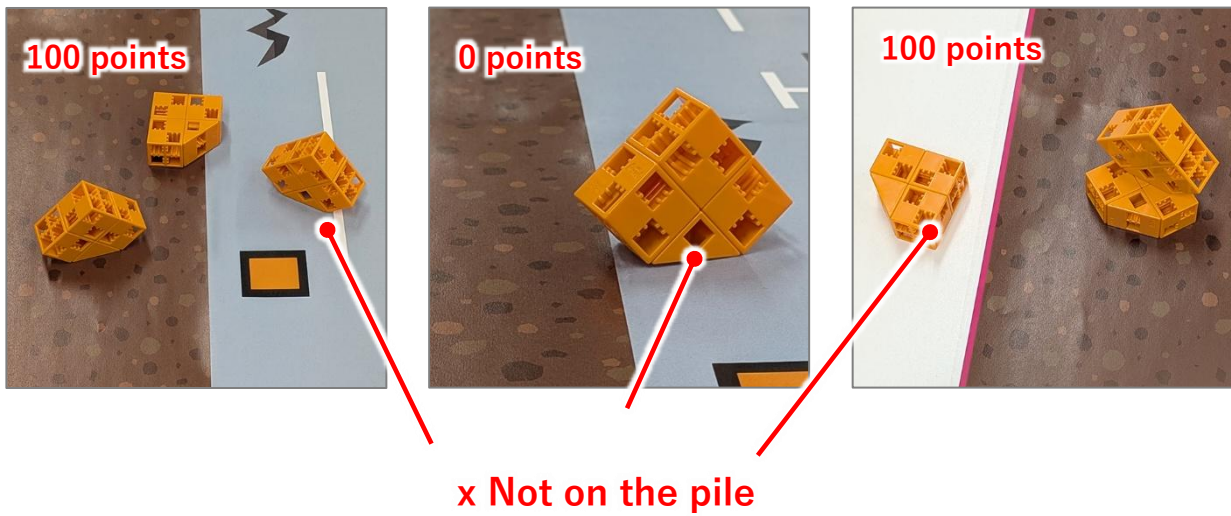
Each piece of rubble delivered to a pile by the end of the round is worth **50 points!**



- There are **6 pieces** of rubble.
- Rubble can be found inside of the orange spaces on the field.



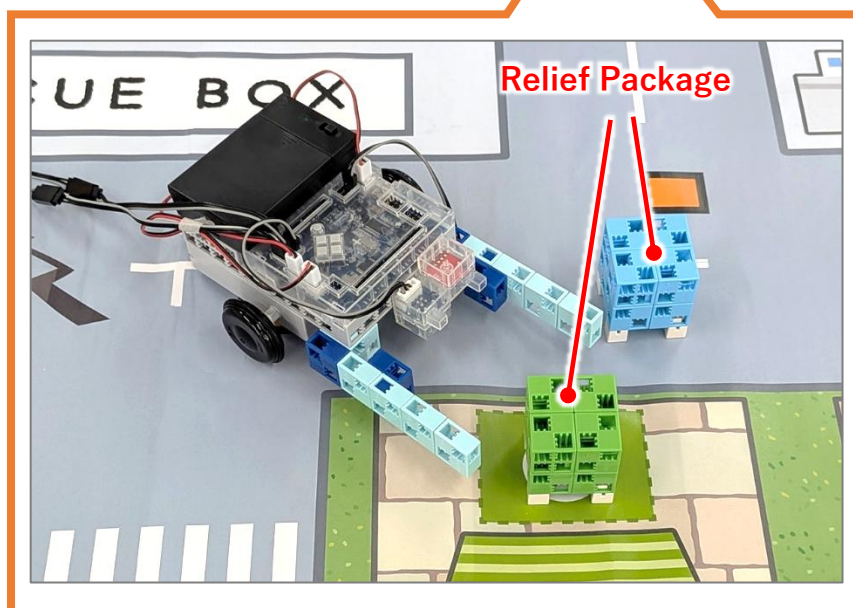
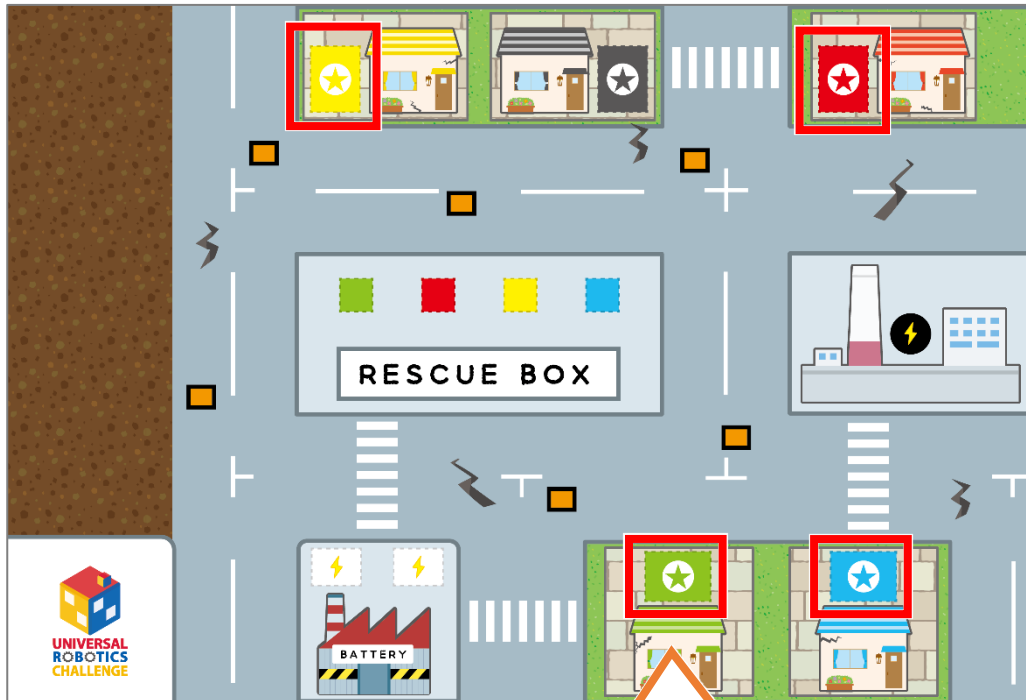
- Pieces of rubble which aren't on a pile won't be scored.



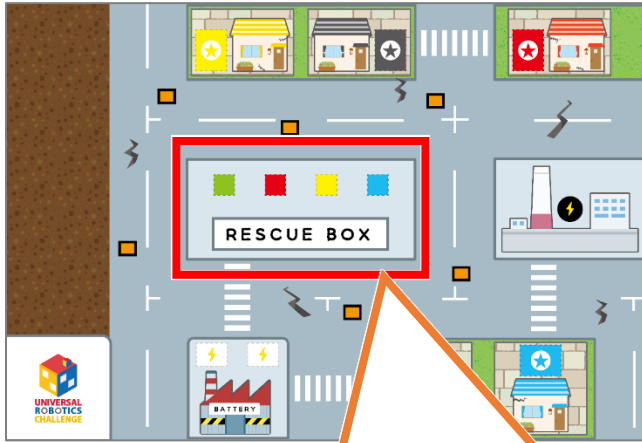
○ [Mission 2] Delivering Relief

In this mission, robots deliver relief packages with food and water to people who can't leave their homes!

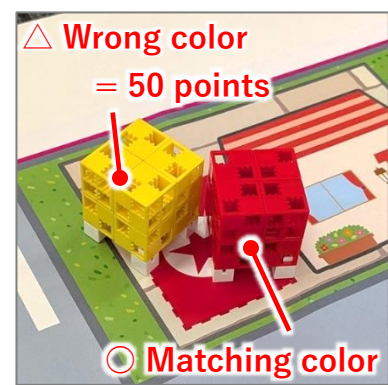
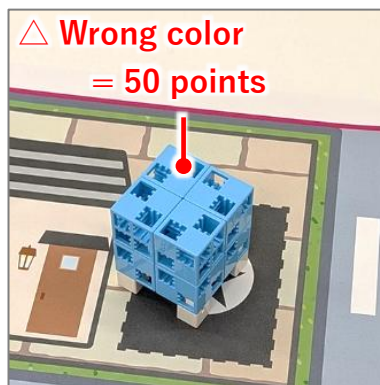
Each **relief package** delivered to a ☆ space of the same color is worth **100 points!**



- There are **4** relief packages in total.
- Packages can be found inside of the spaces of the same color on the field.



- Relief packages which aren't on a ☆ space won't be scored.
- Relief packages which fall over or are delivered to the wrong house are worth half of the points.

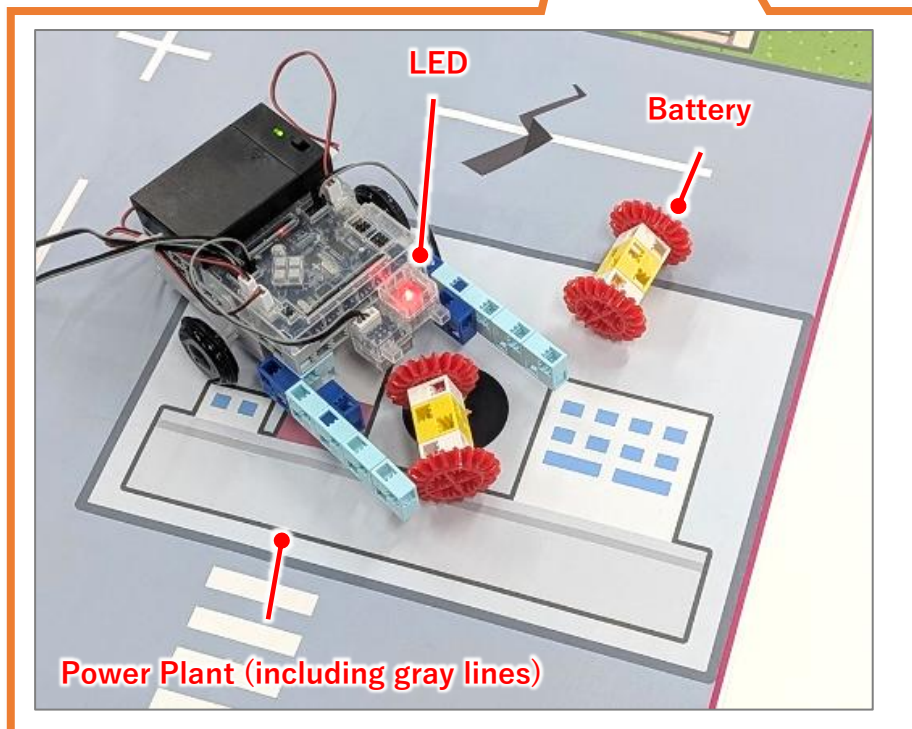
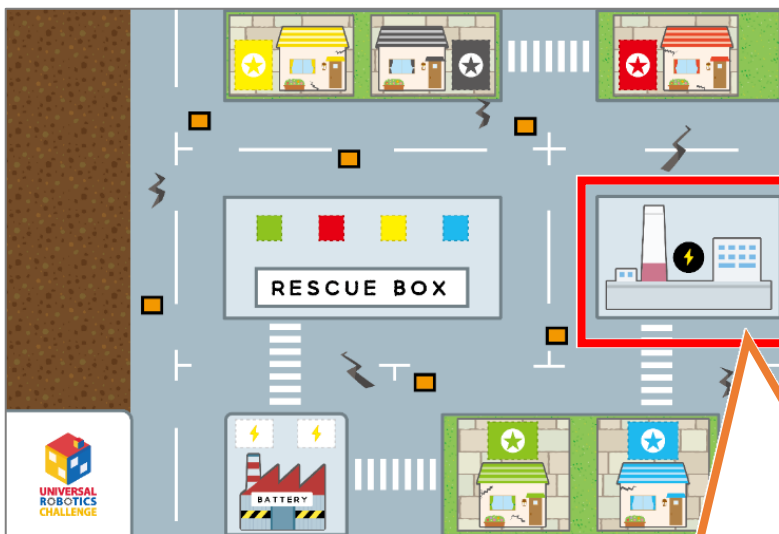


○ **Matching color = 100 points**

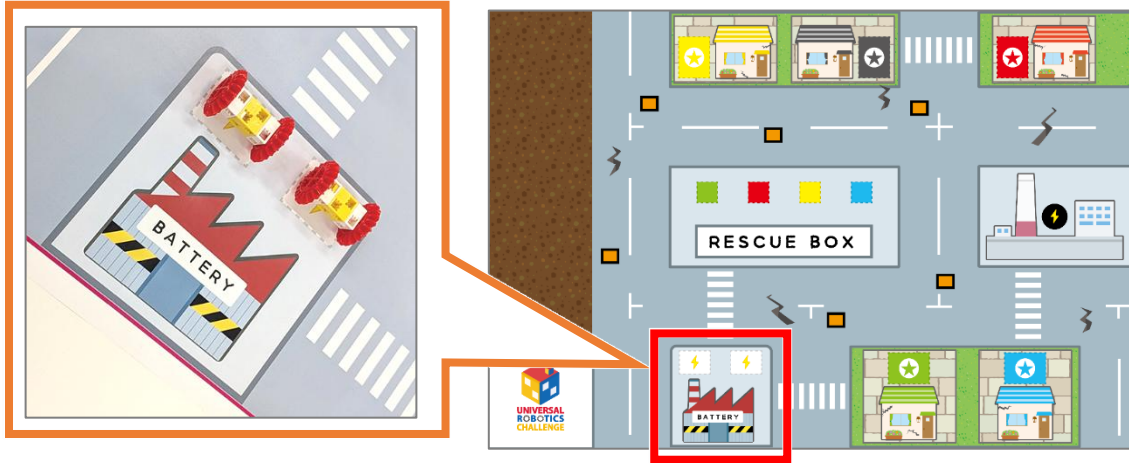
○ [Mission 3] Restoring Power

Natural disasters can knock out power plants which give us electricity and leave us in the dark. Each robot's job is to deliver batteries to the power plant and light the LED to show power is restored!

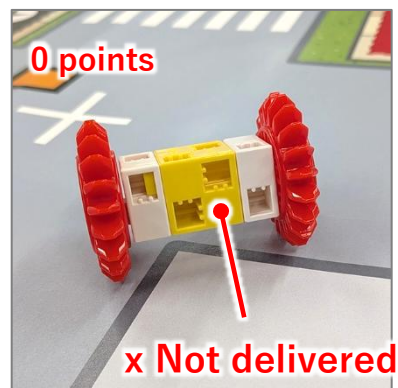
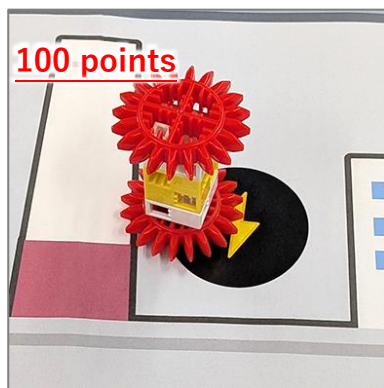
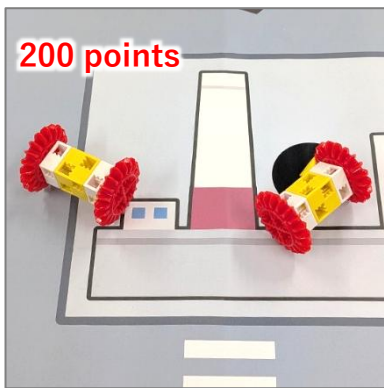
- Each **battery** delivered to a power plant is worth **100 points!**
- Light up the power plant's **LED** by the end of the round to get **100 points!**



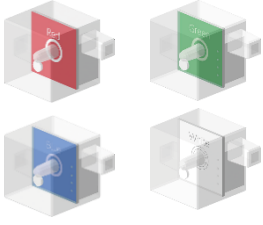

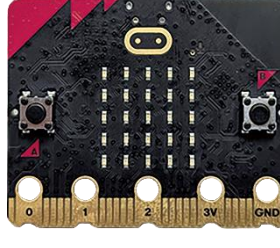

- There are **2** batteries in total.
- Batteries be found on the ⚡ spaces on the field.



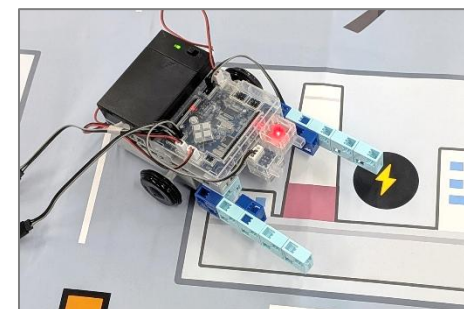
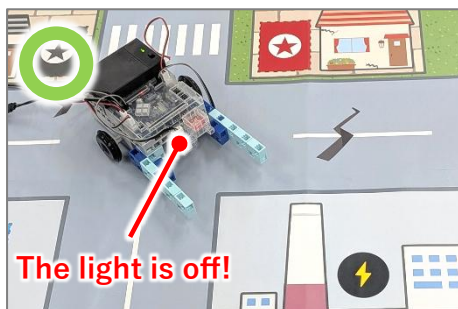
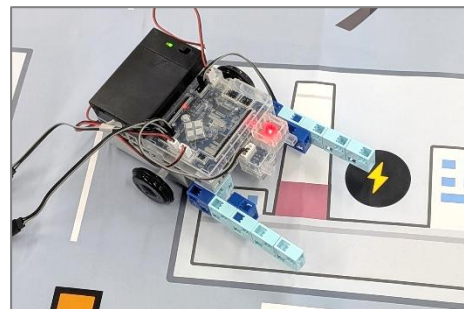
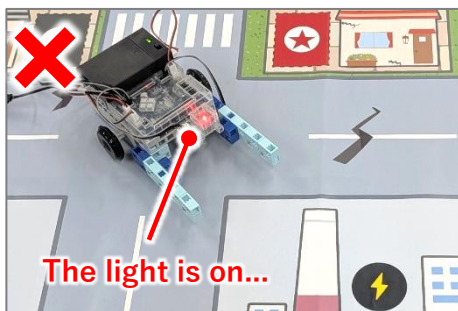
- Batteries which haven't been delivered won't be scored.



- Choose from any of the LED types below. It can be any color you like!

LED	Studuino:bit	micro:bit	ArtecLinks
			

- You'll get no points if the robot enters the power plant with its LED turned on. Remember to turn off the LED before entering the power plant and turning it on!



- ★ You still get points if the LED is blinking.
- ★ Lighting the LED any number of times still earns only 100 points.

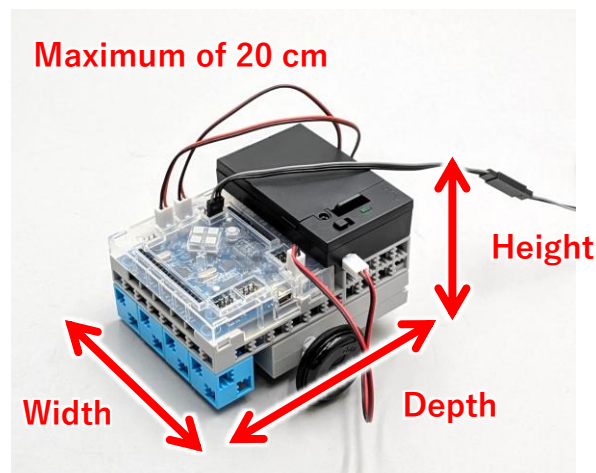
## 4. Competition Robots

Each team has to make their own robot.

Each team can have **1 robot** per round!

### ○ Robot Rules

- Your robot can be up to 20 cm tall, 20 cm wide, and 20 cm in depth. The controller you use to control your robot and the cables you use to connect it can be any size!



- Your robot can transform to become bigger after the round starts.
- You won't be able to use any parts which come off of the robot during the round. You also won't be able to add motors to them to make them run separately.
- You can only use the **ArtecRobo power sources** or **Power Bank** listed in **Appendix 3** to power your robot.
- Your robot can move by itself using its program, or you can use a controller to move it.
- When you connect the robot and the controller, use a cable. Don't use wireless controllers.

## ○ Approved Parts

- The microcontrollers you can use for your robot are listed in **Appendix 2**.
- You can use multiple microcontrollers for one robot.
- The parts you can use for your robot are listed in **Appendix 3 and 4**.
- The parts you can use for your controller are listed in **Appendix 3 and 4**. You cannot use a computer or tablet as a controller.
- Don't use any modified or broken parts.
- You can use rubber bands and zip ties to hold your cables together, but not to hold together your blocks.

# Competition Flow

## 1. Before the Round

Place your rubble and other pieces on the field before the round starts.

Once you place everything and the round has started, you can't touch the pieces until the round is over.

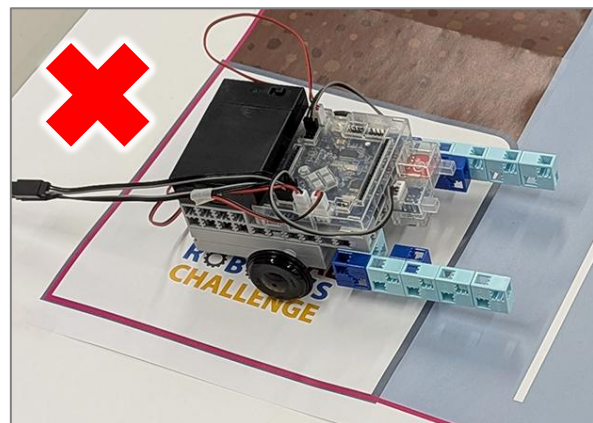
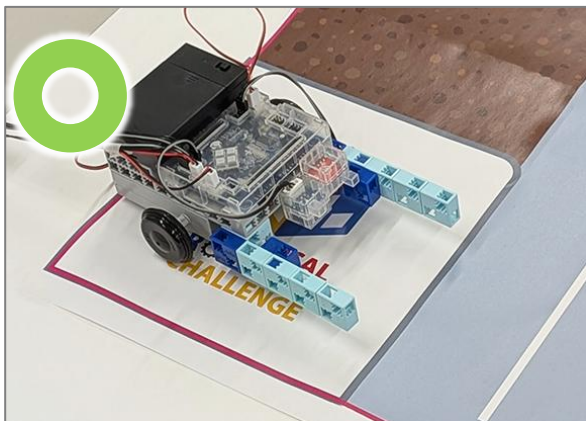
When everything is placed, set down your robot and wait until the round begins!

### ○ Placing the Robot

Place your robot in one of the **Starting Areas** before the round starts.

The robot can be placed facing any direction anywhere within the Starting Area.

- Your robot can't stick out of the **Starting Area** including any parts that are in the air!
- **Don't power on your** robot until the round starts.
- It also can't transform to be over 20 cm when you set it down.



## 2. Starting the Round

At the signal, power on your robot to start the round.

- **Only 1 team member** can hold the controller.
- If you want to give the controller to another team member, move your robot back to the Starting Area first.
- When the robot is in the Starting Area, **only 1 team member** is allowed to move or control it.
- Your robot should always be in the Starting Area before it starts moving again.
- **No team members can enter the field once the round starts!**

### ○ Retries

If you use a **retry** during the round, **1 team member** can enter the field to touch the robot outside of the Starting Area.

- During a retry, you can reset any parts of the robot which have transformed or fallen off.
- During a retry, leave any pieces which your robot has grabbed in the same spot.
- If you move any piece during a retry, move it back to where it was!
- You can use as many retries as you want.
- The clock for the round will keep going during a retry.
- Once your retry is over, move your robot back to the Starting Area before continuing the round!

### 3. Ending the Round

The time limit for round is **2 minutes**.

- Once the round is over, stop your robot right away and leave the field!
- You can also end the round early if you finish with 2 or more minutes left in the round.

### 4. Scoring

Once the round is over, your score for each mission is added together to get your score.

Teams which don't use a controller to control their robot will get an extra minute for the round as a bonus.

★ Teams get no points for completing missions after the round is over.

#### ○ Ranking

Scores are used to find the ranking of each team like 1st, 2nd, and 3rd.

If multiple teams have the same score, their rank is chosen by the number of missions completed.

If they have completed the same number of missions, rank will be chosen by the shortest round time and the lowest number of retries.

★ If everything is the same, it will be a draw!

Example)

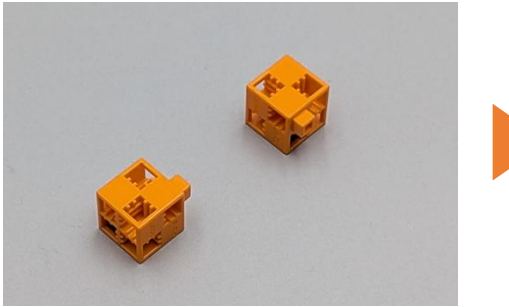
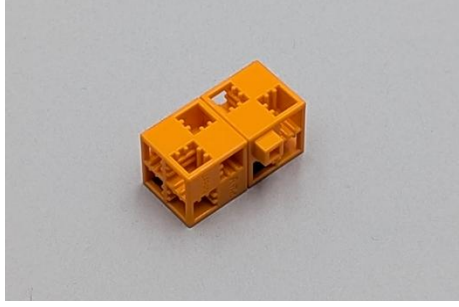
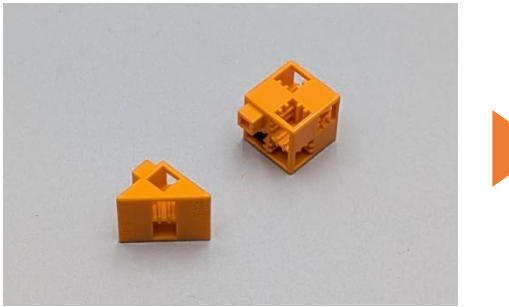
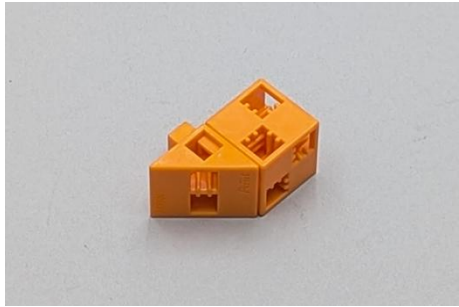
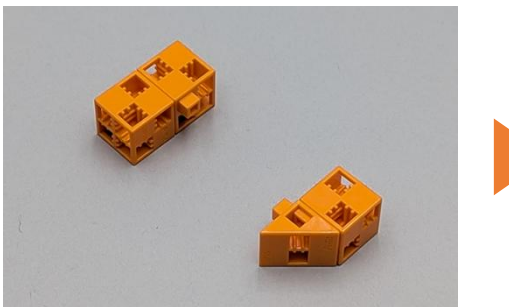
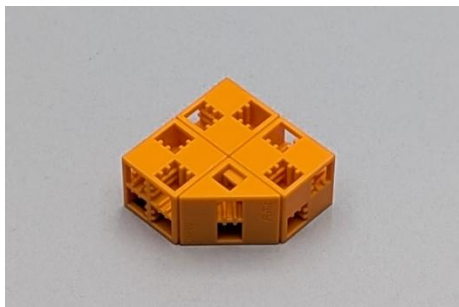
Team	Score	Missions Completed	Retries	Remaining Time	Rank
A	900	2	0	0:21	2nd
B	850	1	1	0:47	4th
C	850	2	2	0:18	3rd
D	1000	3	1	0:15	1st
E	600	1	2	0:30	5th

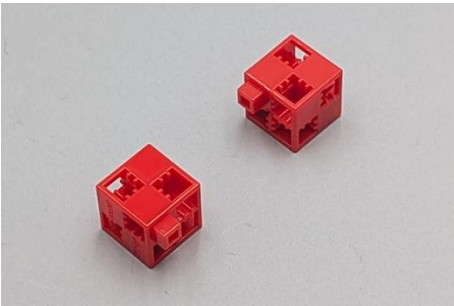
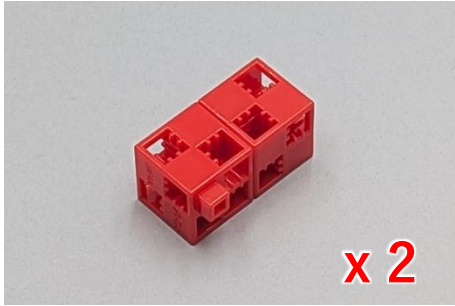
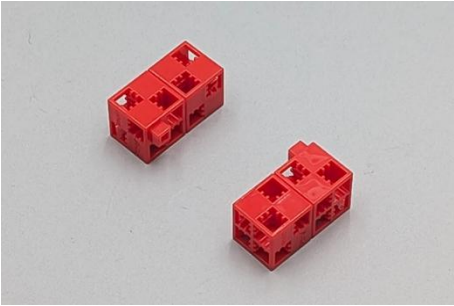
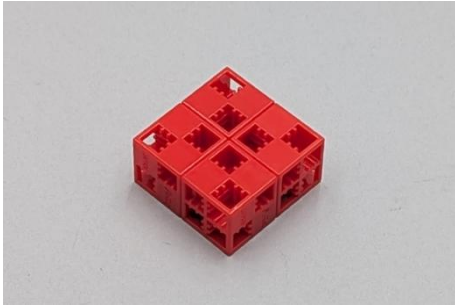
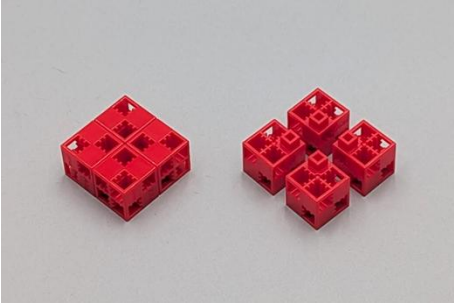
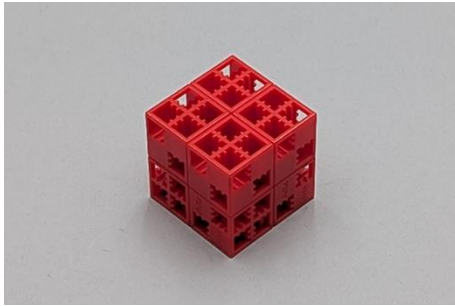
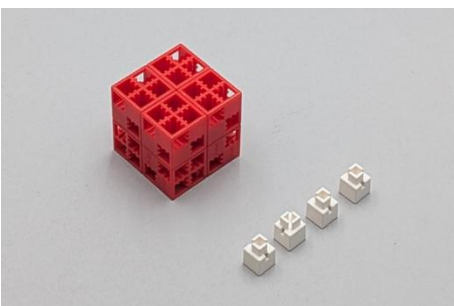
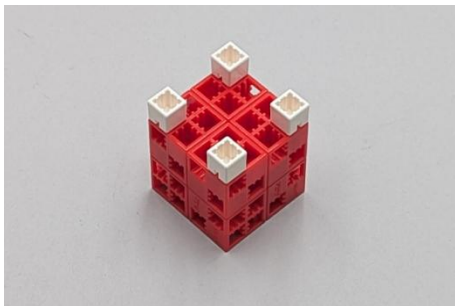
## 5. Other Notes

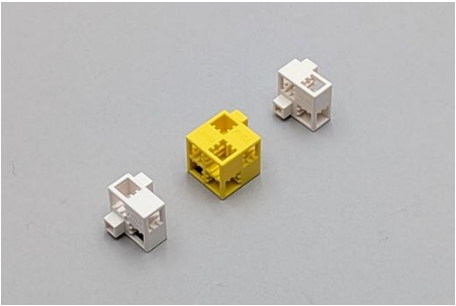
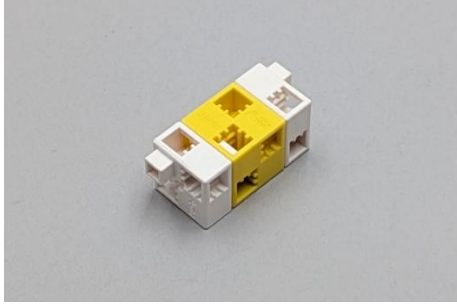
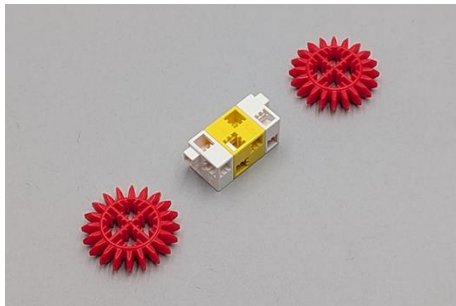
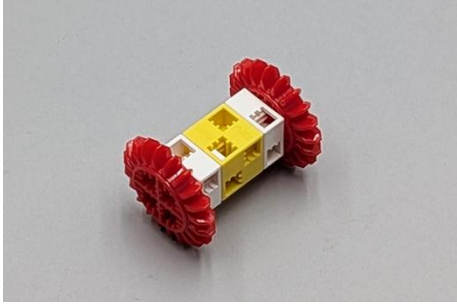
- Only bring what you need for the competition. You aren't allowed to bring **extra parts or blocks**.
- **You aren't allowed to pull on your controller to make your robot move.**
- You **aren't allowed to use the controller cable** to move pieces.
- Aside from retries, you aren't allowed to touch the robot outside of the Starting Area.
- Teams which break the rules may be disqualified. **If you're disqualified, you won't get a ranking!**
- There will be a **special mission** at the world finals!

# Appendices

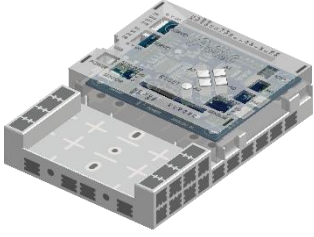
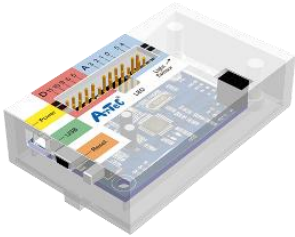


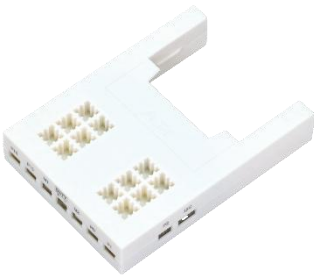

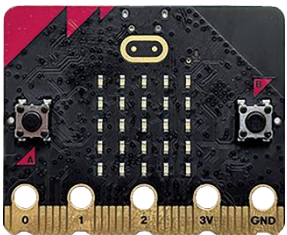
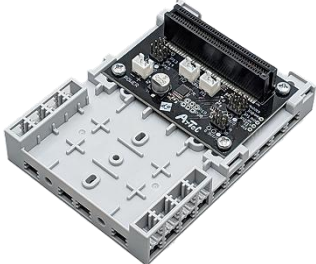

## Appendix 1. Making the Pieces

Rubble		
1		
2		
3		

Relief Package	
1	 
2	 
3	 
4	 


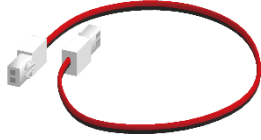


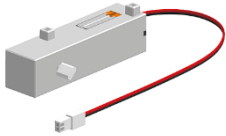
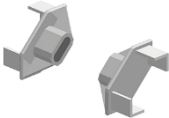
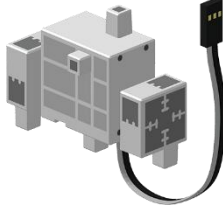
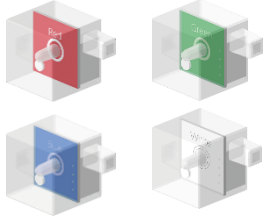
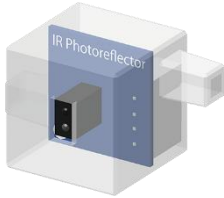
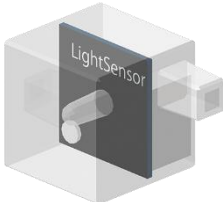
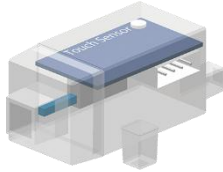
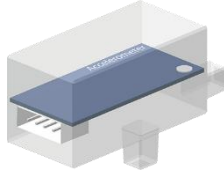
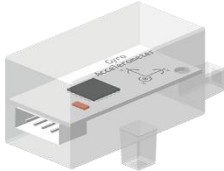


Battery	
1	 
2	 

## Appendix 2. Competition Boards

<p>Studuino</p>	<p>Studuino:mini</p>	<p>Studuino:mini DC Motor Expansion Board</p>
		
<p>Studuino:bit Core Unit</p>	<p>Robot Expansion Unit</p>	<p>StuduinoLite</p>
		
<p>micro:bit</p>	<p>micro:bit Expansion Board</p>	<p>Artec Links (including expansion units)</p>
		



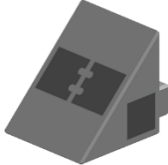
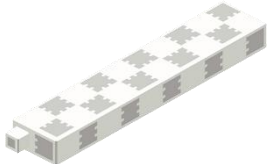




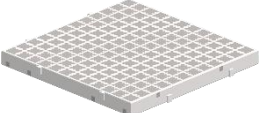

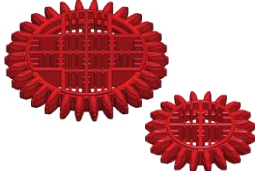
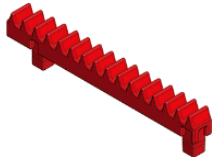



★ You don't need to use stands, covers, or stickers!

### Appendix 3. Electronic Parts

Battery Box	Battery Box Cable	Power Bank	USB Cable
			
DC Motor	DC Motor Parts	Servomotor	LED
			
IR Photorelector	Light Sensor	Touch Sensor	Accelerometer
			
Gyroscope	Sensor Connecting Cable	Sensor Extension Cable	
			

★ You don't need to use covers. Feel free to use stickers to tell your parts apart!

## Appendix 4. Artec Blocks

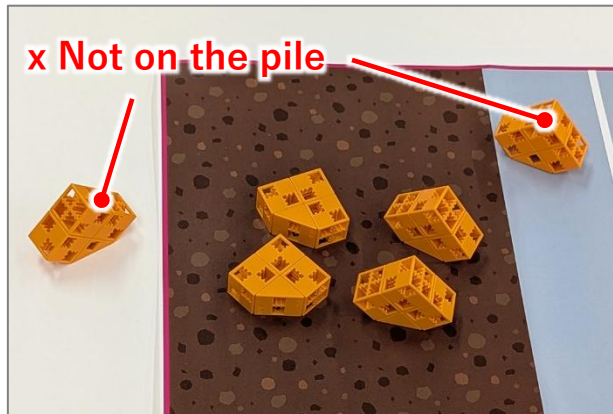
Basic Cube	Mini Cube	Triangle	Beam
			
Half A	Half B	Half C	Half D
			
Base	Axle	Gears (S and L)	Rack
			
Wheels	O-ring	Disks	
			

★ The blocks can be any color!

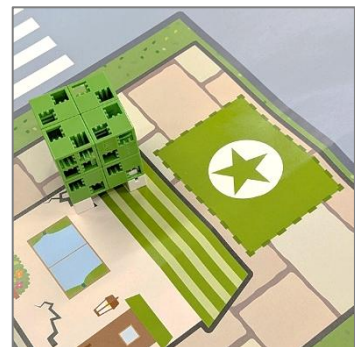
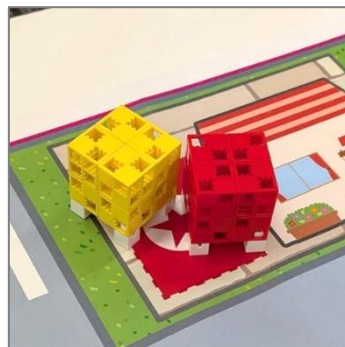
## Appendix 5. Scoring

Example)

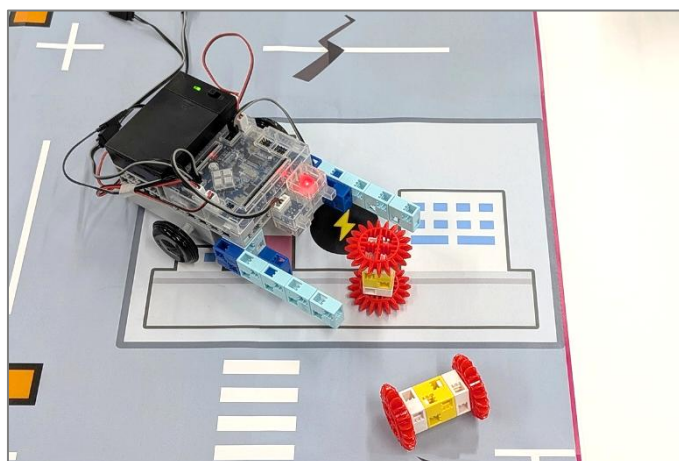
[Mission 1]  $50 \times 4 = 200$  points



[Mission 2]  $50 + 100 + 50 + 0 = 200$  points



[Mission 3]  $100 \times 1 + 100 = 200$  points



Total  $200 + 200 + 200 = 600$  points

◆ FAQ

Q1) Do you lose points if your robot leaves the field during the round?

A) No, you don't lose any points and you can continue the round! If your robot can't make it back to the field, you will have to declare a retry and place it back in the Starting Area or end the round.

Q2) Do you lose points if pieces move off of the field during the round?

A) If you want to move pieces back, declare a retry. Once you do that, move the pieces back to their original place! (you can place rubble and batteries anywhere you like)

Q3) Can you choose when to use a controller or let your program control the robot?

A) Yes you can! For example, you can choose to use a controller in the first round and transfer a program to let your robot work by itself in the second round.

Q4) What kind of field will you have at the world finals?

A) Instead of paper, courses at the world finals are made of waterproof material. In order to make it level, the field is attached to a board which is 7 mm thick!

Q5) What's the special mission like?

A) Details on the special mission will be shared with teams who proceed to the world finals!

★ The field will still look the same!