



Robot Game



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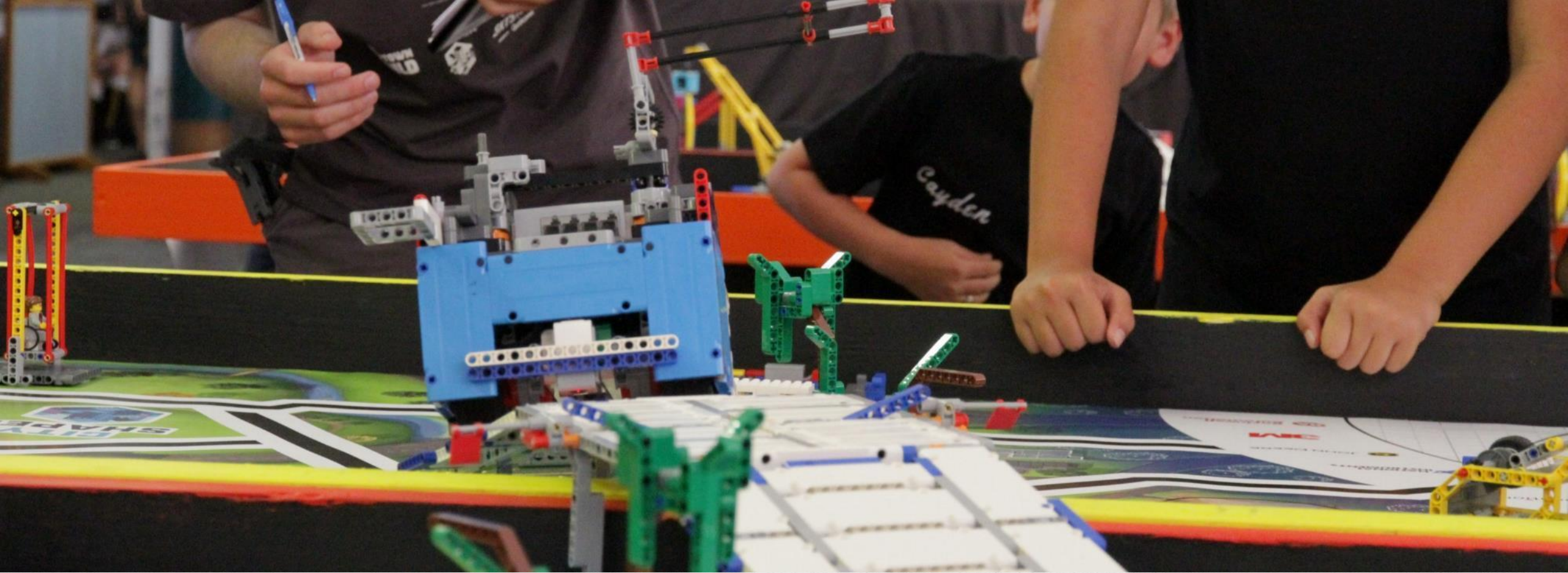
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Robot Game: Important Rules

You MUST read the Robot Game Rules to understand the game completely

However, here are the top rules that cause problems...

Robot Game Rulebook - Direct Wording Excerpts (Pg 16)

- All Robot Game wording means precisely and only what it says.
- If a detail is not mentioned, it does not matter.
- Challenge Updates may change wording.
- If a situation arises that makes the referee's decision unclear or hard to call, you get the **benefit of the doubt**.
- Head Referee makes the final decision.

The Home of Loopholes!

Look for hidden freedoms in the Mission Text
Beware of "Captain Obvious"

Robot Game Rulebook – Before the Match: Equipment (Pg 17)

- Teams can use any software or programming language. Robots must be autonomous during the match.
- No remote controllers of any type are allowed.

Be Careful...

- No laptops/tablets at Robot Game
 - Turn off Bluetooth on Hubs
 - IR Sensors are not allowed

Robot Game Rulebook (pg. 24)

If you compete, remember that volunteers work hard to get the fields just right, but you should expect and design for rare imperfections, like bumps under the mat or changes in light.

Beware!

- Tables can be slightly different widths
- There are (legal) variances in wall height
- Mats do **not** have to be taped down, but if they are, they must follow specific rules (see Point #4, Pg. 24)
 - Do not depend on wall width or anything outside the table
 - Competition Mats are brand-new (and not worn down)

Before The Match – Equipment (Pg 17)

LEGO building pieces only...

- **Controllers:** ONE individual controller in any one Match...
- **Motors:** Any combination, max of four in any one match.
- **Sensors:** Any Touch/Force, Colour, Distance/Ultrasonic and Gyro
- **Parts:** No limits on non-Electric LEGO pieces

Read Pg 17 carefully!

- Extra Controllers or Motors must be left in the Pit
 - 4 motors only (and **only** the allowed types)
 - No IR Sensor

Problem even at Internationals!

Mission Models (Pg 20 and Updates)

- Taking apart a Mission model (even temporarily) is not allowed.
- Twisting or rotating Mission Models is allowed, provided they stay intact (e.g. a Mini-Fig pose)
- If you combine a mission model with anything (including the robot), the combination needs to be loose or simple enough that, if asked to, you could free the mission model in perfect original condition immediately.

Read carefully!

This is even a problem at Internationals

Before The Match - Setup (Pg 18)

After Inspection, you are guaranteed **1 min** to prepare for Game Start. Use this time to:

- Set up for first Launch
- Position Equipment and Mission Models in either Home area
- Ask the Ref to be sure a Mission Model or setup is correct
- Calibrate/reset sensors anywhere you like.

Be aware of time limits!

- Get your team to practice setup in 1 min
- Do not touch the field without permission

During the Match - Launch Area (Pg 19)

To Launch:

- the robot and **everything it is about to move** must fit in a Launch Area. **Note: the area ends at the edge of the mat and does not extend over the wall.**
- Technicians cannot be keeping anything from moving



Match Sequence

1. Arrive at Table.
2. Inspection: All Equipment must be in one or both of the Launch Areas and under the height limit. **(Pg 18)**
3. After Inspection: Arrange all equipment in the Home Areas. Calibrate, Inspect, and prepare for Launch **(Pg 18)**
4. Technicians: Divide Team into two groups, one for each Home Area
5. Pre-Launch: Robot and everything it's about to move must be completely in Launch Area and not being held **(Pg 19).**
6. In-Match: Robot can Launch from either Launch Area and move objects between them **(Pg 6)**
7. In-Match: Interruption outside of Home loses a precision disc **(Pg 15)** but Robot can be returned to either Launch area.
8. At end of Game (or end of missions) Robot is stopped **(Pg 20-21).**
9. Technicians (**not coaches**) sign off on final Score **(Pg 21)**

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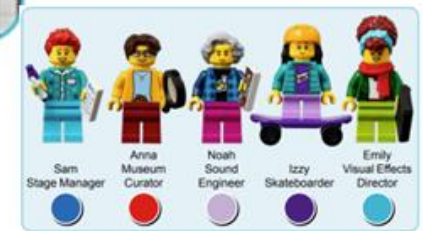


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2023-2024 SEASON



Robot Game: The Missions



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Equipment Inspection

If your robot and all your equipment fit completely in **one** launch area and are under a height limit of 12 in. (305 mm) during the pre-match inspection (**20 pts**)



Important!

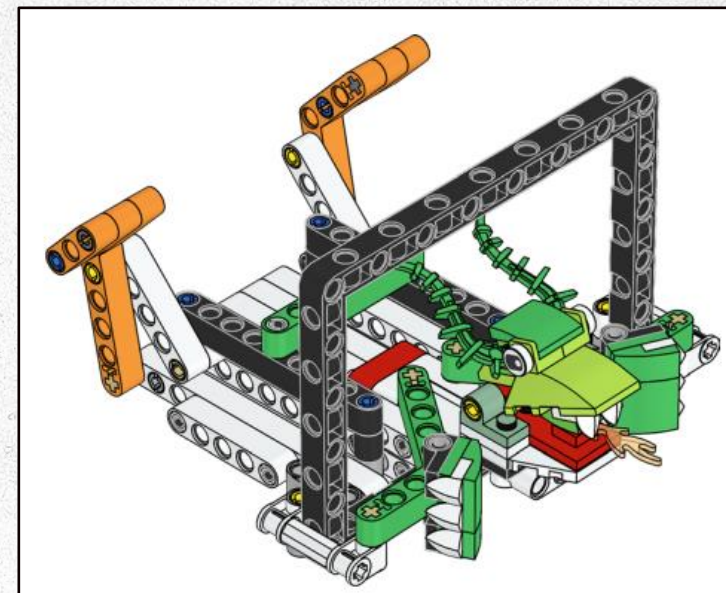
You can hold Equipment in place during Inspection
You can spread out your Equipment after Inspection

Mission 01: 3D Cinema

If the 3D cinema's small red beam is **completely** to the right of the black frame: (20 pts)

Restrictions:

N/A



+20: Red Beam to Right of Black Frame

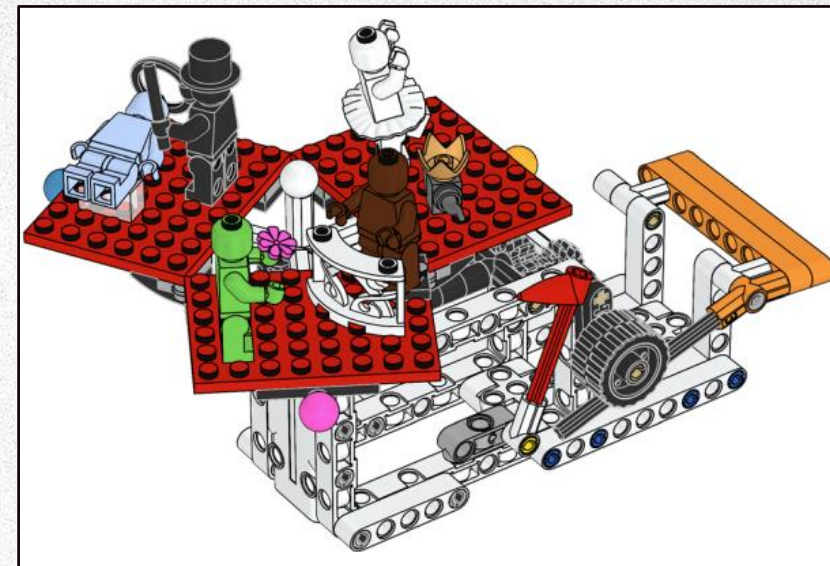


Mission 02: Theatre Scene Change

- If your theater's red flag is down and the active scene color is: Blue (10 pts); Pink (20 Pts); Orange (30 pts)
- **Bonus:** if both teams' active scenes match: Blue (20 pts); Pink (30 Pts); Orange (10 pts)

Restrictions:

- Teams may activate only their own model.
- It is not possible to earn the bonus in remote competitions or if there is no opposing team.



+10/+20: **Blue + Matching**
 +20/+30: **Pink + Matching**
 +30/+10: **Orange + Matching**

Max:

- 30 pts (Solo)
- 50 pts (Co-op)

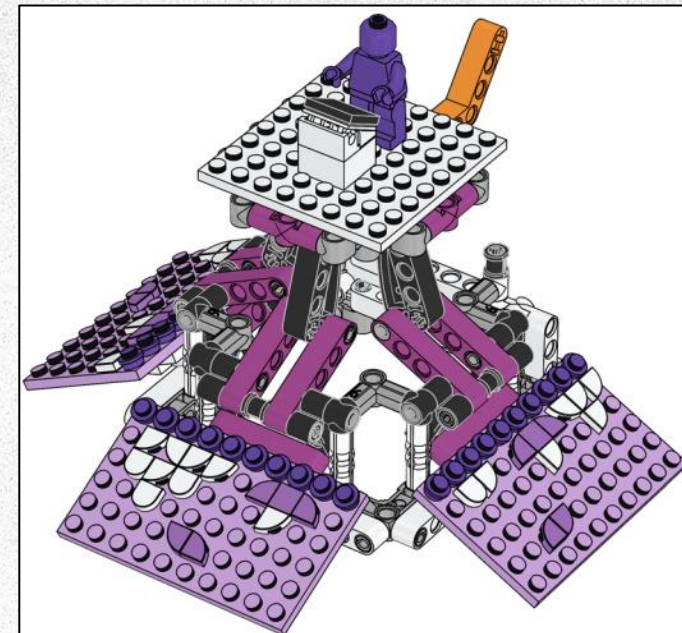


Mission 03: Immersive Experience

- If the three immersive experience screens are raised:
(20 pts)

Restrictions:

To score, team Equipment may not be touching the immersive experience model at the end of the match.



+20: Three Screens Raised



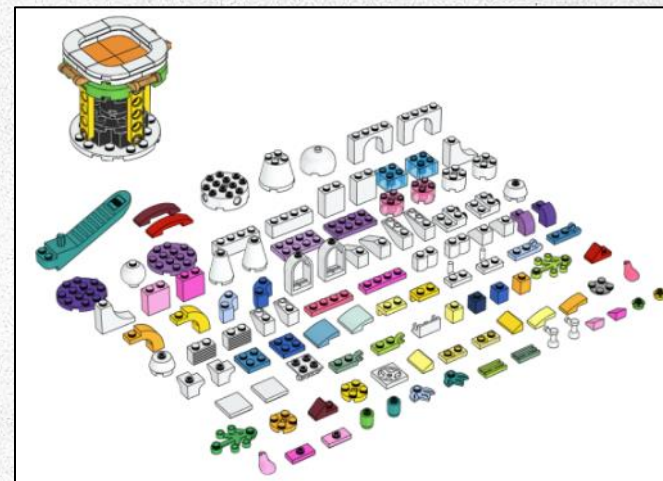
Mission 04: Masterpiece

- If your team's LEGO art piece is at least **partly** in the museum target area: (10 pts)
- Bonus:** And if the art piece is **completely** supported by the pedestal: (20 pts)

Restrictions:

To score the bonus, at the end of the match, the art piece may **only** be touching the pedestal, and the pedestal **may not be touching** any team Equipment except the art piece

Note: Pedestal and Art Piece can start in either Launch Area



+10: Art Piece in Museum

+20: AND Art Piece Supported by Pedestal

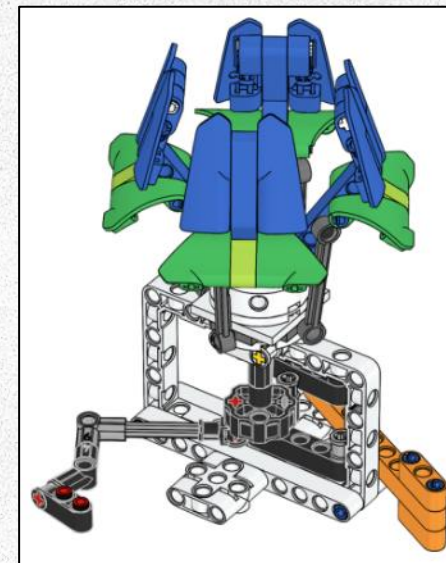
Max: 30 pts

Mission 05: Augmented Reality Statue

- If the augmented reality statue's orange lever is rotated **completely** to the right (30 pts)

Restrictions:

N/A



+30: Orange Lever completely right



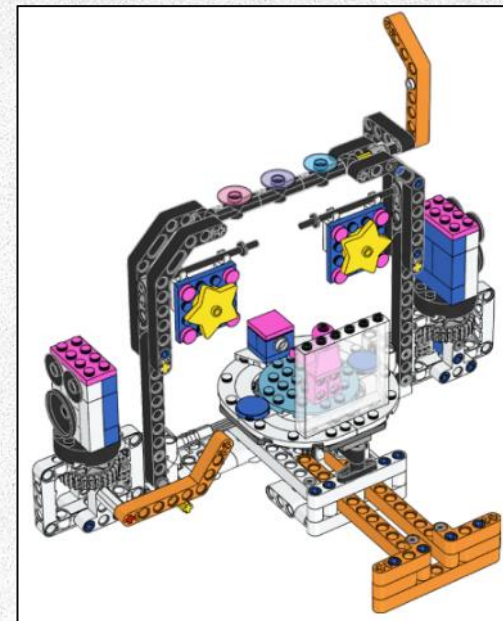
Mission 06: Music Concert Lights and Sounds

- If the lights' orange lever is rotated **completely** downwards: (10 pts)
- If the speakers' orange lever is rotated **completely** to the left: (10 pts)

Restrictions:

N/A

Note: "Position of Lever" – not position of speakers or lights. Benefit of the doubt on Speaker Lever



+10: Rotated Light Lever
+10: Rotated Speaker Lever

Max: 20 pts



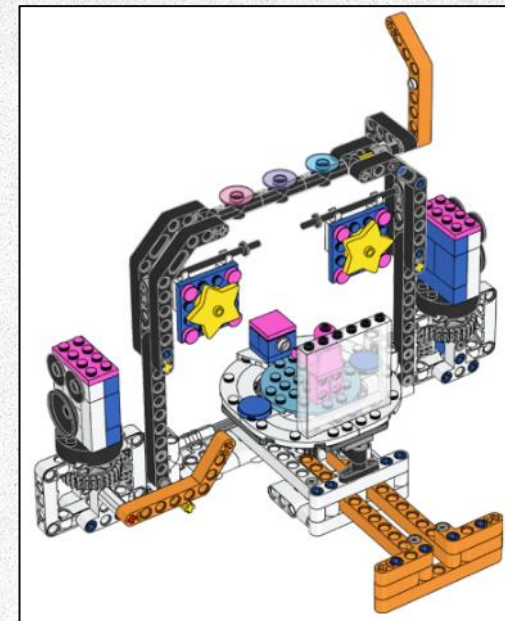
Mission 07: Hologram Performer

- If the hologram performer's orange push activator is **completely** past the black stage set line (20 pts each)

Restrictions:

N/A

Note: Score based on position of push activator – not position of performer



+20: Push Activator past line



Mission 08: Rolling Camera

If the rolling camera's white pointer is is:

- Left of dark blue, but right of medium and light blue: (10 pts)
- Left of dark and medium blue, but right of light blue: (20 pts)
- Left of dark, medium, and light blue: (30 pts)

Restrictions:

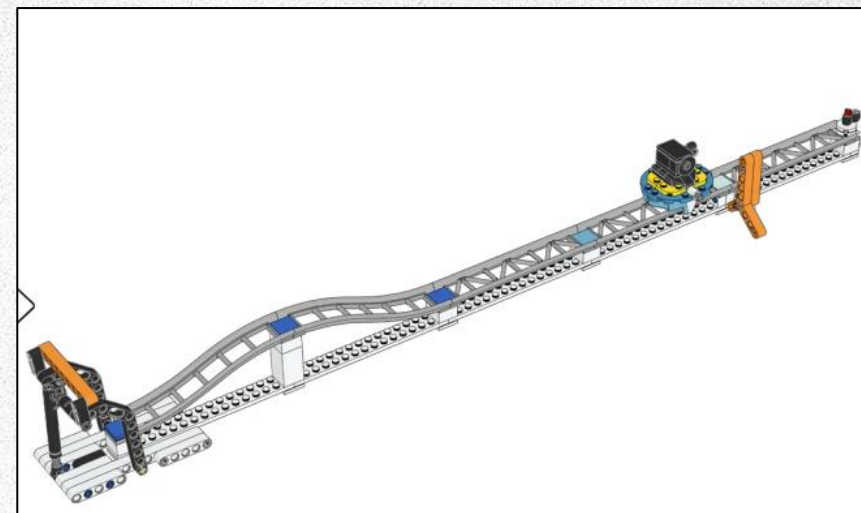
If the white pointer is on a colored tile, you earn points for the higher scoring area of the track.

+10: Left of dark blue, but right of medium and light blue

+20: Left of dark and medium blue, but right of light blue

+30: Left of dark, medium, and light blue

Max: 30 pts



Mission 09: Movie Set

- If the boat is touching the mat and is **completely** past the black scene line: (10 pts)
- If the camera is touching the mat and is at least **partly** in the camera target area: (10 pts)

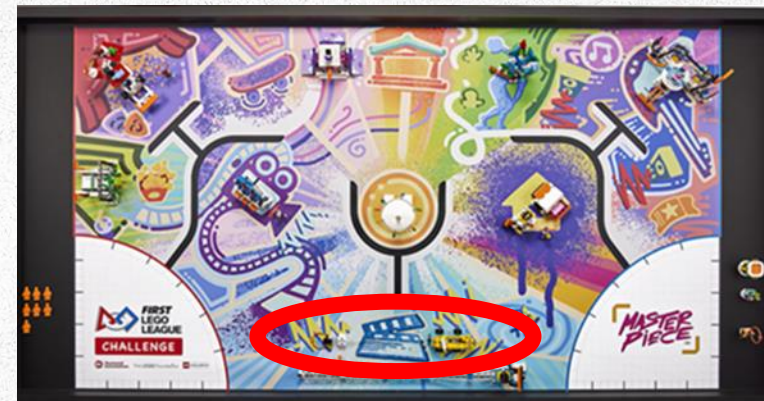
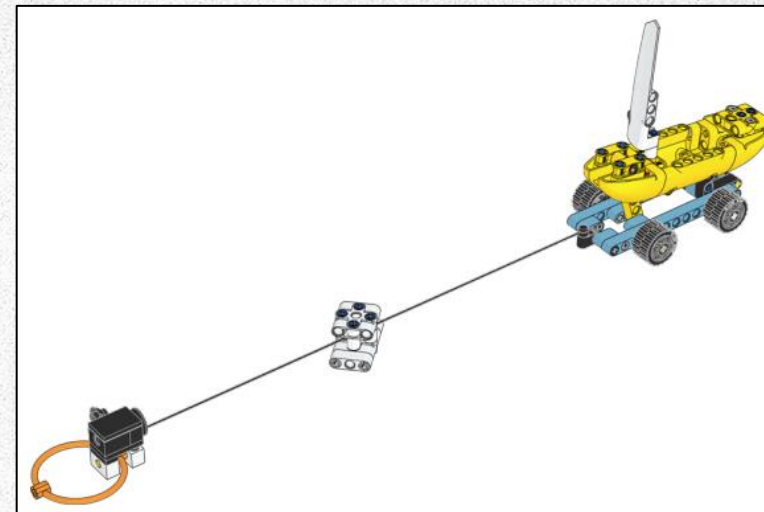
Restrictions:

The camera includes the loop, but not the string.

When scoring, the scene line extends vertically from the top to the bottom of the field.

+10: Boat past Black Line
+10: Camera in Target Area

Max: 20 pts

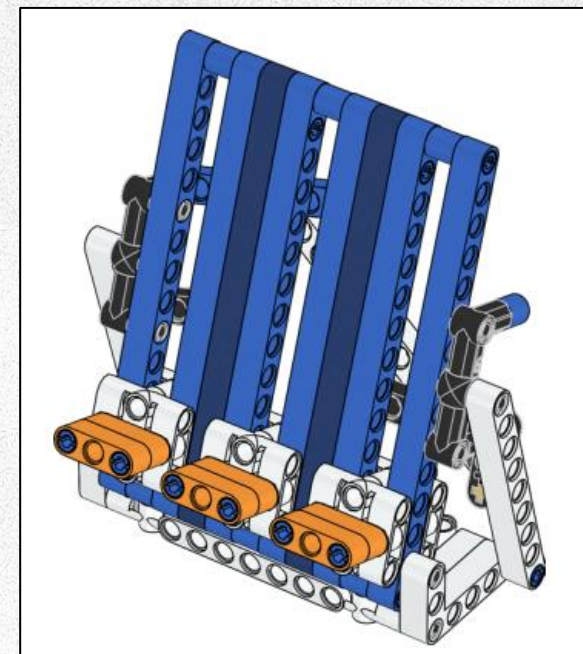


Mission 10: Sound Mixer

- If a sound mixer slider is raised: (10 pts each)

Restrictions:

To score, team equipment may not be touching the sound mixer or sliders at the end of the match.



+10: Each Slider Raised

Max: 30 pts



Mission 11: Light Show

If the light show's white pointer is within zone:

- Yellow (10 pts)
- Green (20 pts)
- Blue (30 pts)

Restrictions:

If the white pointer rests between zones, you earn points for the higher scoring zone of the two.

+10: **Yellow**
+20: **Green**
+30: **Blue**

Max: 30 pts



Mission 12: Virtual Reality Artist

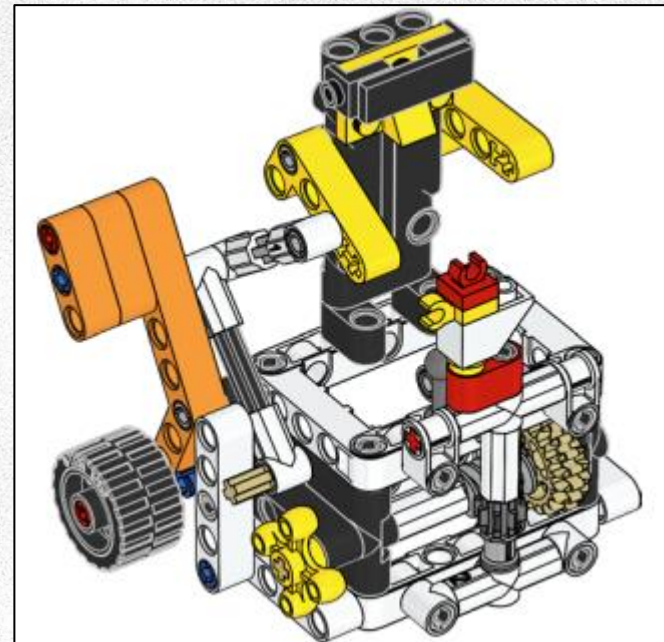
- If the chicken is intact and has moved from its starting position: (10 pts)
- **Bonus:** And is over or **completely** past the lavender dot: (20 pts)

Restrictions:

N/A

+10: Chicken has moved
+20: Chicken moved past dot

Max: 30 pts

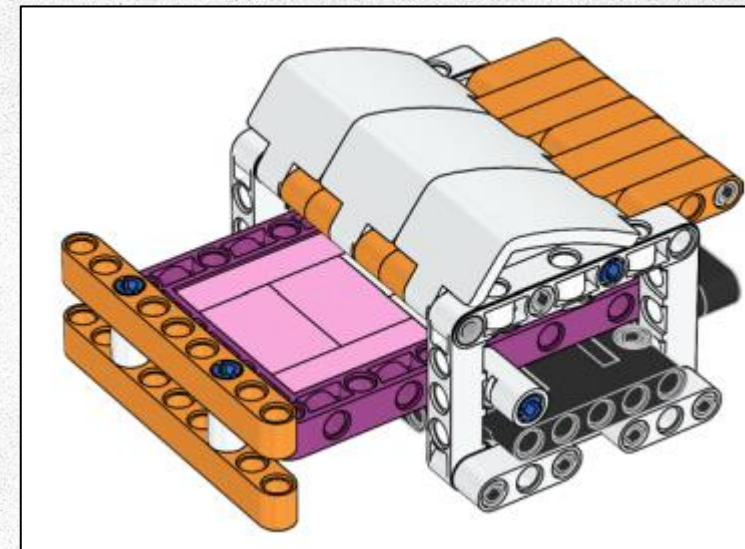


Mission 13: Craft Creator

- If the craft machine's orange and white lid is **completely** open: (10 pts)
- If the craft machine's light pink latch is pointing straight down: (20 pts)

Restrictions:

N/A



+10: Lid Open
+20: Pink Latch Down

Max: 30 pts



Mission 14: Audience Delivery

- If an audience member is **completely** in a target destination (5 pts each member)
- If a target destination has at least one audience member **completely** in (5 pts each destination)

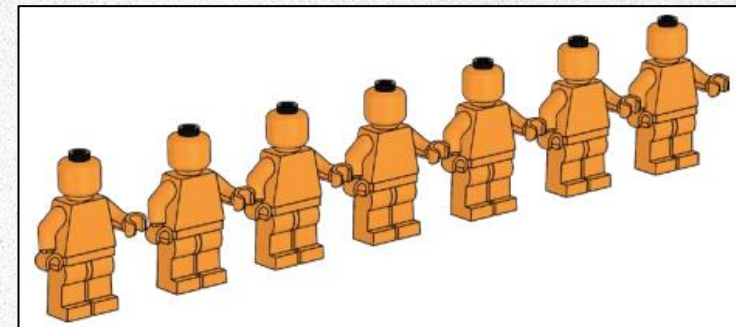
Restrictions:

N/A

Note: Any amount of audience members can start in either Home Area

+5 each: **Audience in Destination**
+5 each: **Destination with Audience**

Max: 70 pts



Mission 15: Rechargeable Battery

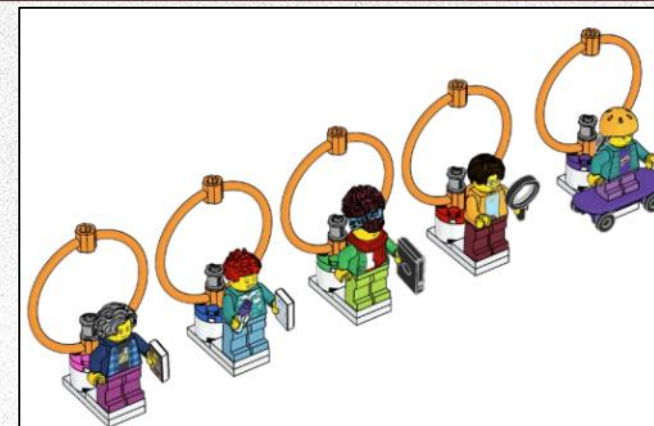
If the following experts are at least **partly** in their target destinations (10 pts each)

- Sam the Stage Manager in Movie Set
- Anna the Curator in Museum
- Noah the Sound Engineer in Music Concert
- Izzy the Skateboarder in Skate Park
- Emily the Visual Effects Director in Cinema

Restrictions:

The expert includes the loop and the base.

Note: Anna can start in either Home

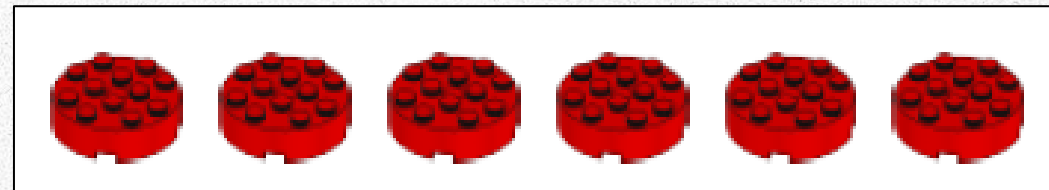


+10 each: Experts in Target Destination
Max: 50 pts

Precision Tokens

Number of Precision Tokens left on the Field:

- 6 Tokens (50 pts)
- 5 Tokens (50 pts)
- 4 Tokens (35 pts)
- 3 Tokens (25 pts)
- 2 Tokens (15 pts)
- 1 Tokens (10 pts)



Max: 50 pts



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