Robot ZONE [01]

Help
Merodian

Educative Challenge

6-10 ans

2026-03-18

Context

The land of Merodian has been invaded by King Hex, a vicious and cruel character. King Hex has seized the gold, changed the combination to the safe, separated families, and locked away the Star of Zadel, Merodian's source of energy.

Will your robot be brave enough to infiltrate the castle while King Hex is away and free Merodian?
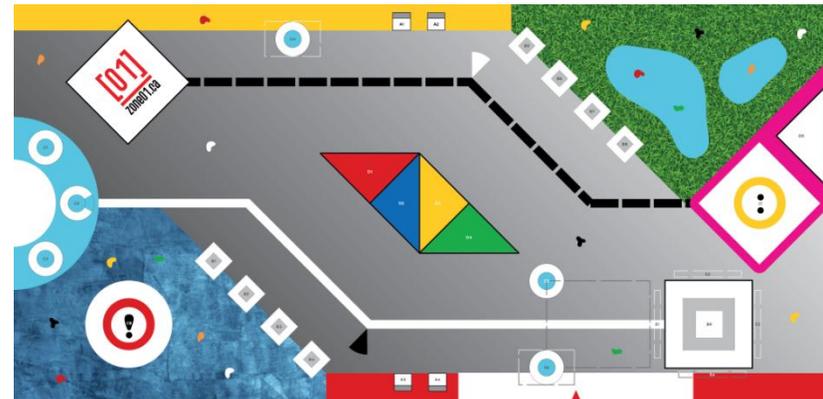
Description of the robot

Robots must comply with the following requirements:

1. Maximum robot dimensions: 25 cm x 25 cm. The robot must fit entirely within the starting area.
2. Only one controller is allowed (WeDo, Spike, EV3, Tudao, etc.), with a maximum of two ports connected.

3. A tablet or computer may be used to run multiple programs during the challenge, and modifications to the programs are permitted throughout the round.
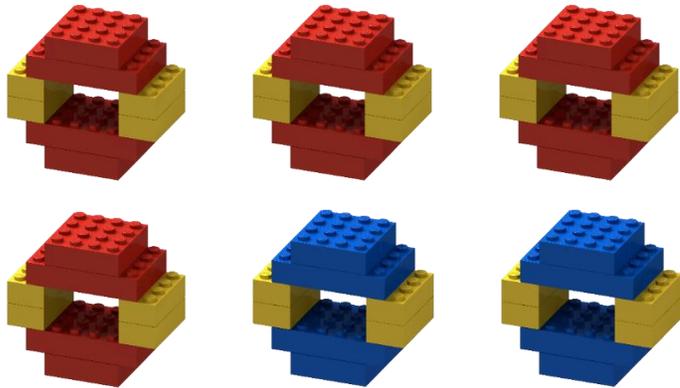
Playing field

Mat used: Z01-L (new in 2026)

The mat is available at the Zone01 shop.

There is no wall around the playing field.

Description of game elements

Gold Coins

King Hex has mixed his counterfeit (fake) gold with the gold reserves of Merodian. There are 4 genuine gold coins, easily identifiable by their red color, and 2 counterfeit gold coins, which are blue.

Lock

Merodian's treasures are kept in a safe and protected by a five-color lock (black, yellow, green, red, and blue) that can be turned in either direction.

L'étoile de Zadel et la tour du donjon

The Star of Zadel is Merodian's energy source. It provides energy when connected to the ground. King Hex removed it from the ground and imprisoned it at the top of the dungeon tower. For 6–10-year-old category, the 2x2 black LEGO piece under the star doesn't exist. Therefore, the star is simply put on the tower, not inserted in.
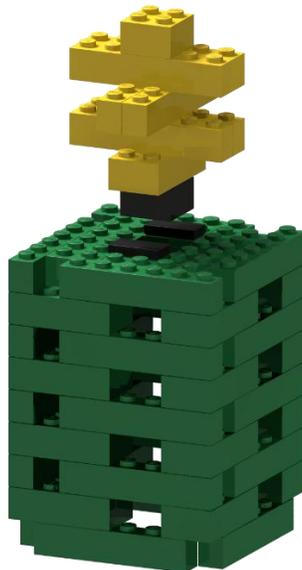
Froolas Guardians

The Froolas Guardians are King Hex's loyal defenders. They are ready to fight intruders at any moment. But they are cowardly, and a good blow to the head renders them harmless.
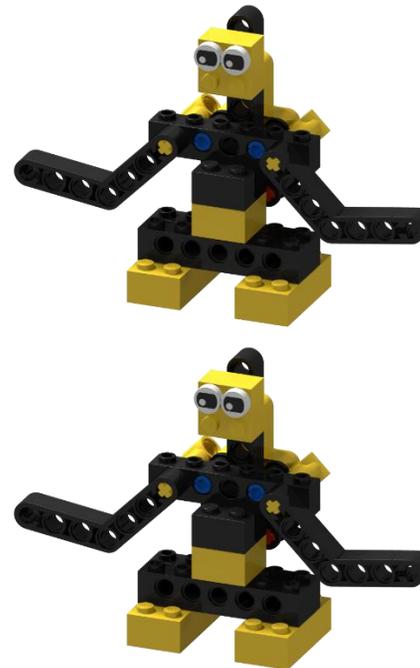
Tirulis

These little creatures are part of Merodian's population. A family of three Tirulis was separated while trying to hide from King Hex during the invasion.

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The Land of Merodian – Help Merodian - © Zone01 Robotics, 2025-2026

Position of game elements

Froola Guardian

Gold Coins Area

Tiruli

Starting and Handling Area

Lock

Reserve and Handling Area

Tiruli

Tiruli

Dungeon Tower and the Star of Zadel

Gold Coins Area

Froola Guardian

Blue and Yellow Central Handling Area
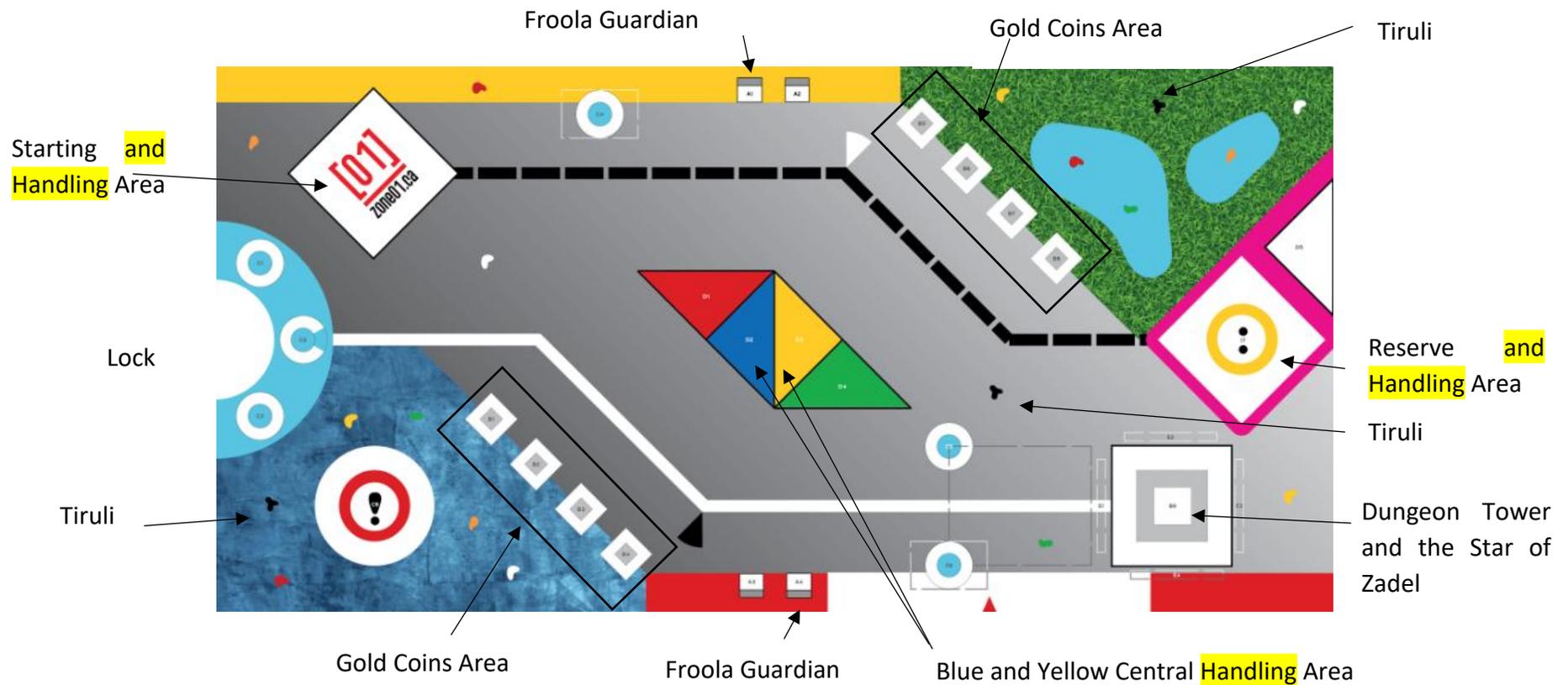
Gold Coins

Three gold coins (two red and one blue) are placed randomly on squares B1, B2, B3, and B4. The other three are placed on squares B5, B6, B7 and B8.

Lock: Centered on C2 and secured to the mat with double-sided tape. The black code points toward the white line.

Dungeon Tower: Centered on the white square B9, the two small black pieces parallel to the short side of the mat.

Star of Zadel: Placed on the dungeon tower. The central yellow 1x6 brick points toward the white line.

Froolas Gardians: Placed on rectangles A1 & A4, they face the center of the mat. Arms are lowered and head is raised.

Tirulis: Placed on the three small rounded black shapes.

Objectives

The Help Merodian challenge aims to develop several skills in students:

1. Collaborating effectively as a team.
2. Adapting to new information.
3. Choosing their own sequence of actions.

Since the locations will change for each team in each round, students will have to carefully plan their robot's actions without adult help!

Allowed Manipulations

Robot Handling

Students may manipulate, realign, or move the robot only when it is in the starting area, the reserve area and the central square made up of blue and yellow triangles.

The robot is allowed to be moved between the starting area, the reserve area and the central square and vice versa. At least one wheel of the robot must be within one of the zones before and after any manipulation, prior to starting a new program.

Game éléments handling

Students are not permitted to enter or remove accessories from the starting area, the reserve area and the central square; only the robot may do so.

Accessories can be repositioned within the zone but must remain on the ground if they are already there.

3D view of game elements
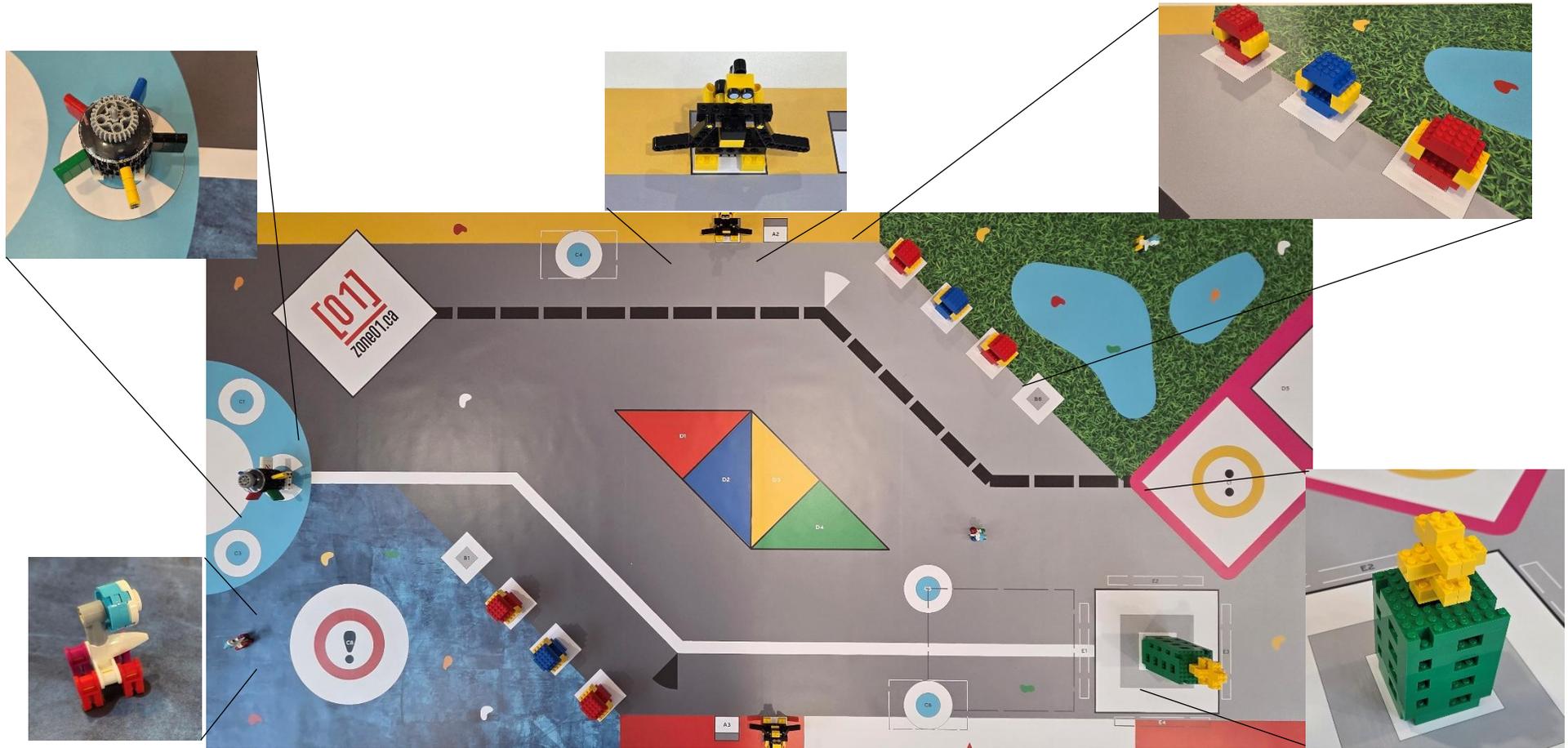
Missions

Start

- The team sets up the robot completely in the starting area. At the judge's signal, the judge randomly places the 6 gold coins (4 red and 2 blue). The team analyzes the layout, plans its actions, and starts its robot to complete the missions in any order.
- The challenge ends when a team says "STOP," touches the robot outside the handling areas, or when the maximum time of 2 minutes has finished.
- Points for finishing in the starting area will only be awarded if the robot completely leaves the starting area before returning and stopping there on its own.

Mission 1: Neutralize the Froolas

Neutralize the Froolas by hitting them on the head so that they raise their arms.

Mission 2: Retrieve the genuine gold coins

Bring the 4 red gold coins to the reserve, which is the white square located in the pink area.

The blue (fake) gold coins must remain in their starting positions.

Mission 3: Bringing the Tirulis family together

The Tirulis have been separated from each other. Help them find each other by bringing them to the triangle of your choice (D1, D4, or D5). You earn points for bringing the Tirulis to one of the triangles and bonus points if you bring them to the same triangle.

Mission 4: Reset the lock

Change the color facing the white line to reset the lock.
The color used to reset the lock is red.

Mission 5: Reconnect the Star of Zadel

To provide energy to Merodian, the star must touch the ground (game mat).

Remove the Star of Zadel from the dungeon tower and place it on the ground without damaging it to earn points. The dungeon tower must remain in place.

Scoring

Missions	Each	Points max
Froola neutralized (arms up)	8	16
Red gold coin in the reserve	7	28
Blue gold coin not moved	3	6
Tiruli completely inside one of the triangles D1, D4, or D5	6	18
3 Tirulis gathered in the same triangle	5	5
Lock with the correct color aligned with the white line	11	11
Star of Zadel on the ground and undamaged	9	9
Robot stops in the starting area after completely exiting it	7	7
Penalties		
Move the dungeon tower outside the grey square		-3
Injure a Froola Guardian		-4
Damage the lock		-5
Solve the surprise rule		20
Total points max		**120**

Score Interpretation

Lock
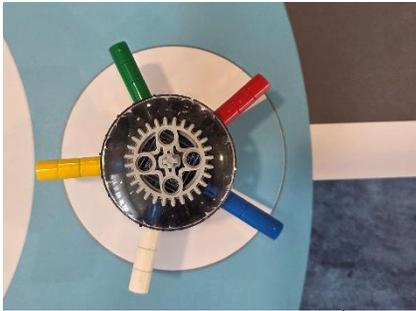
White visible between target color (e.g., red) and cyan = 0 point

Target color in cyan, 11 points
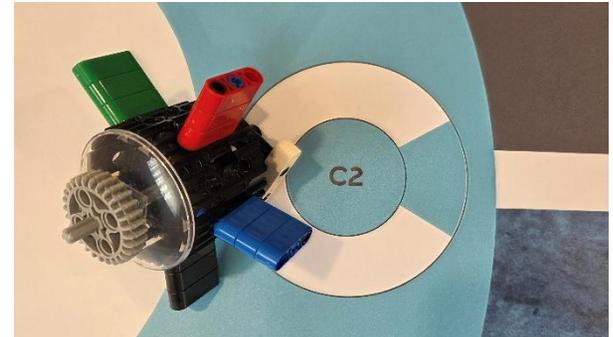
Damaged lock = -5 points

Gold coins
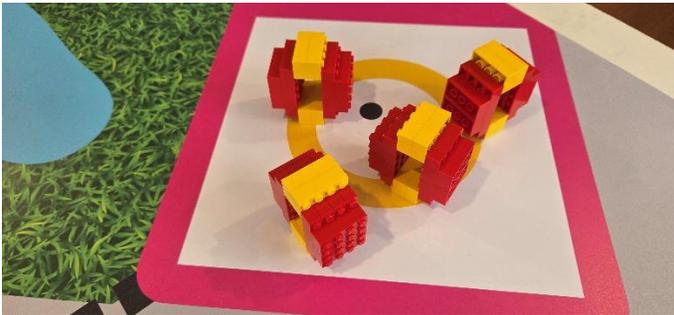
4 red gold coins standing upright on their yellow bases completely within the white square = 28 points
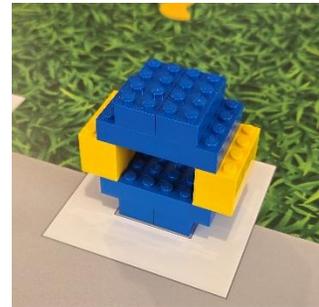
Blue gold coin not moved = 3 points
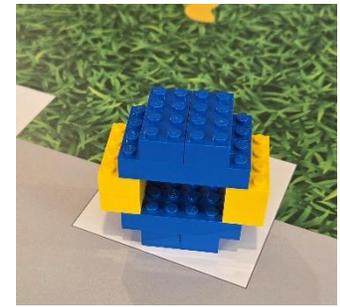
Blue gold coin moved = 0 point
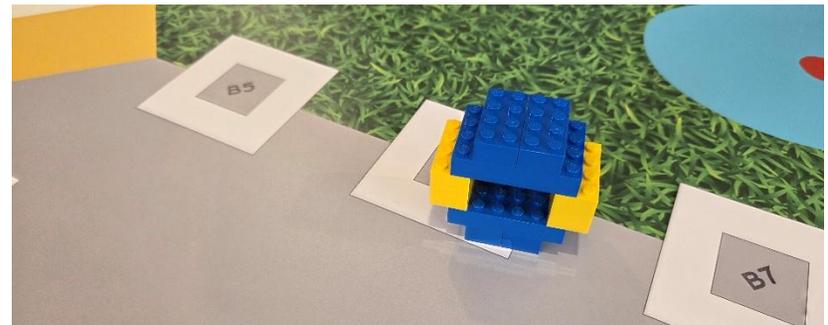
Tirulis
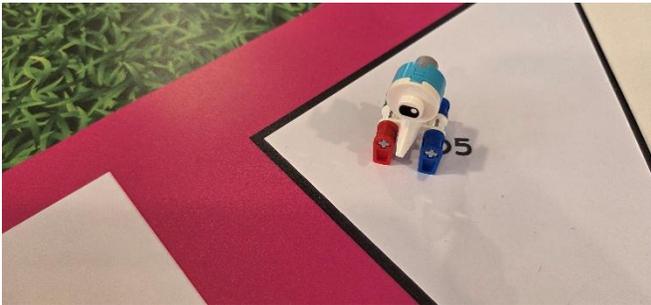
Tiruli in one of the triangles D1, D4, or D5 = 6 points
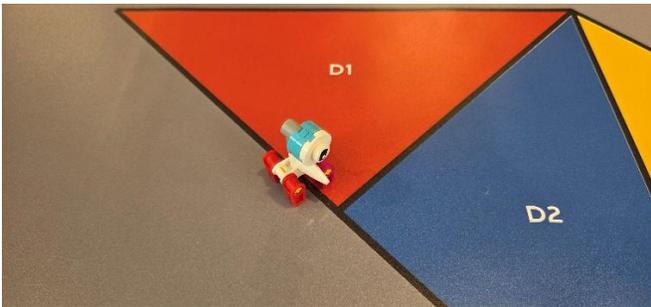
Tiruli partially in one of the triangles = 0 point

3 Tirulis in the same triangle D1, D4, or D5 = 6+6+6+5 = 23 points

Tiruli in a forbidden triangle = 0 point

Froolas Guardians
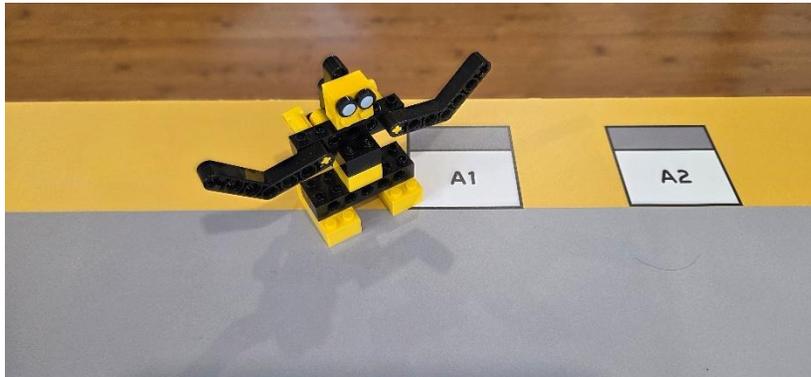
Froola neutralized (arms up) touches his white rectangle = 8 points

Froola not neutralized = 0 point
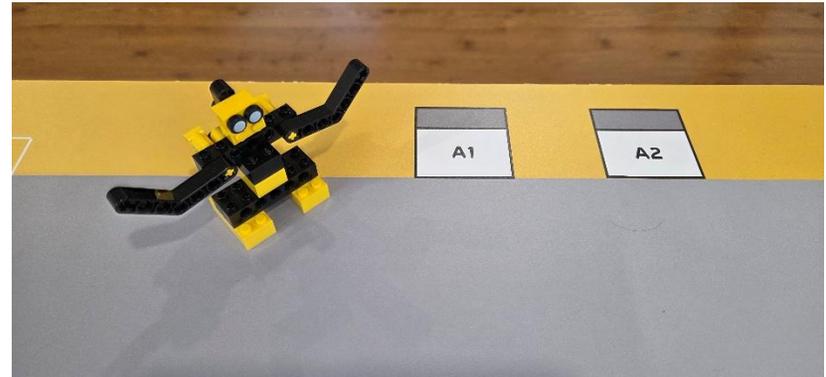
Froola outside its white rectangle = 0 point
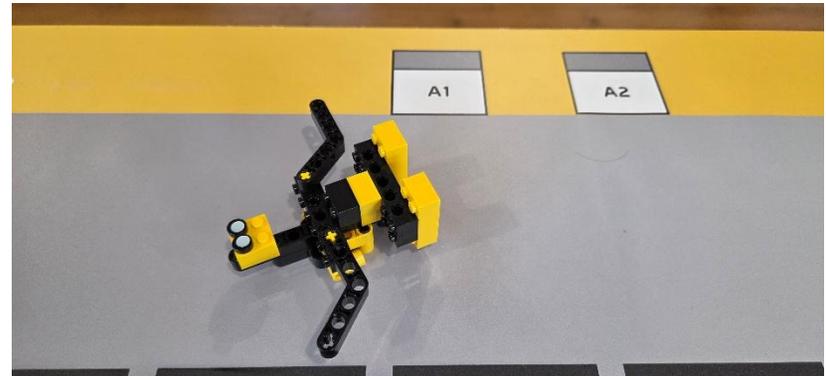
Damaged Froola = -4 points

Dungeon Tower and Star of Zadel
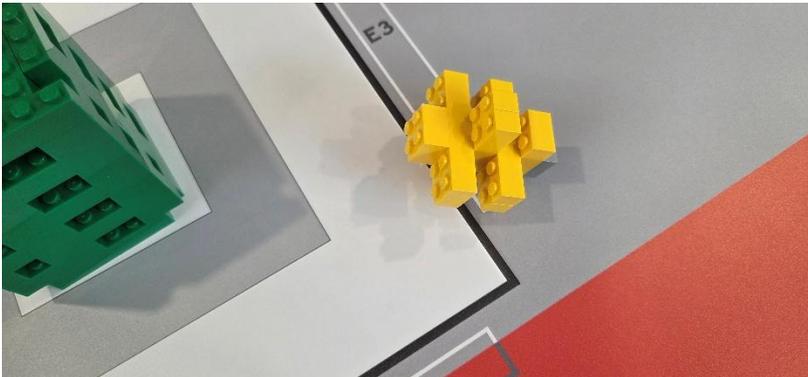
Star of Zadel on the ground and undamaged = 9 points

Dungeon tower touches outside of grey rectangle = -3 points

Building Instructions

Tirulis (3x)

The color of the pieces is not important.

Star of Zadel (1x)

1
1x   1x

2
4x
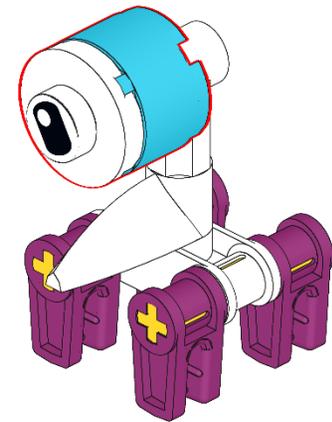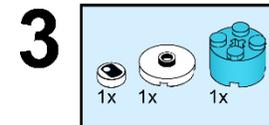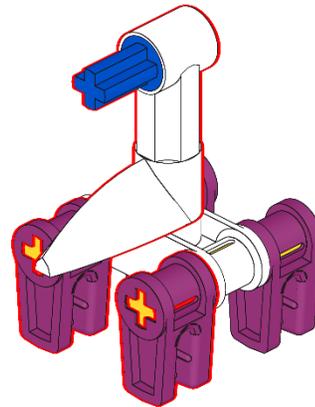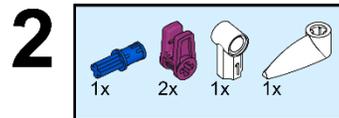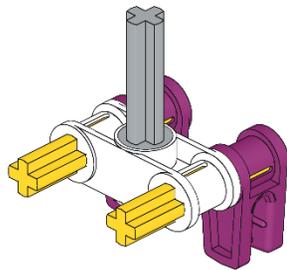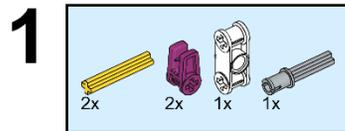
3
1x   2x
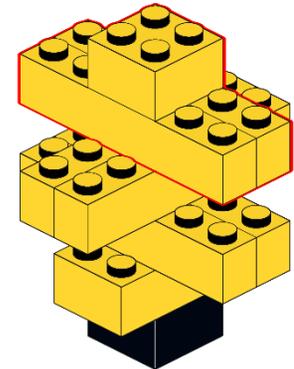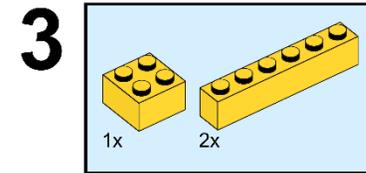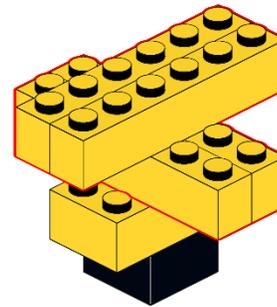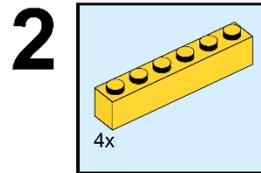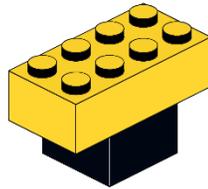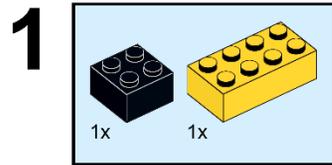
Note : For 6-10-year-old category, the 2x2 black LEGO piece doesn't exist.

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Dungeon Tower (1x)

x 3

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Lock   (x 1)

1
2x 1x 1x 1x

2
2x 1x

3
1x

4
1x 1x

5
1x 1x

6
4x

7
3x

8
3x

9
10x 10x 3x 3x 3x 3x 3x
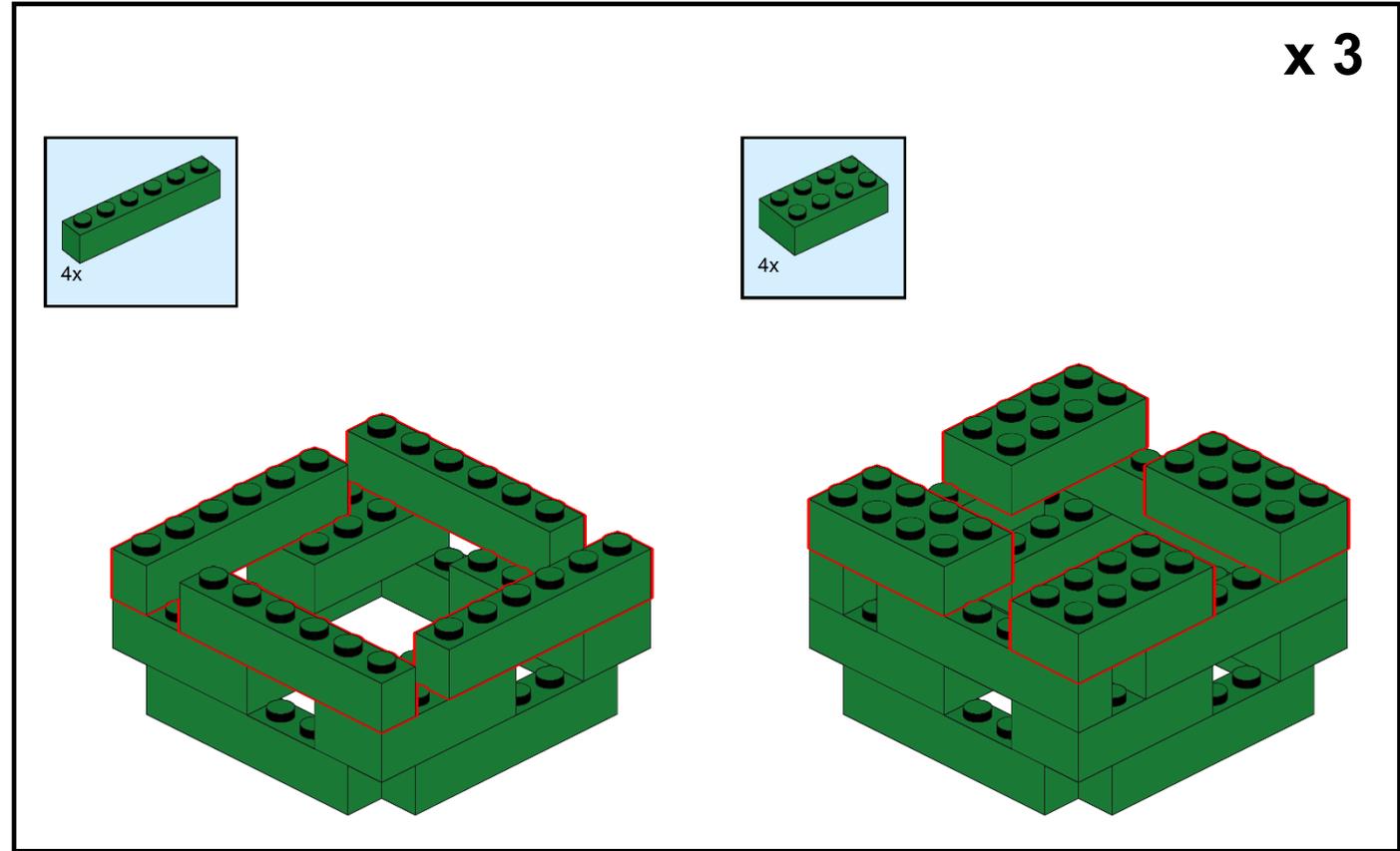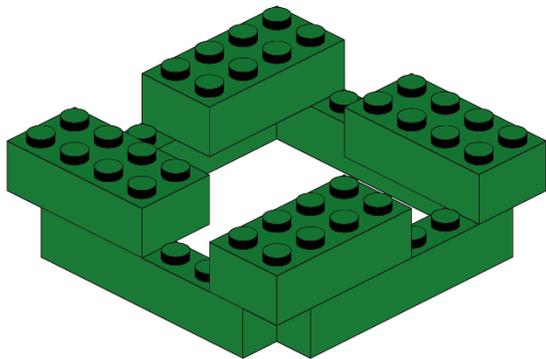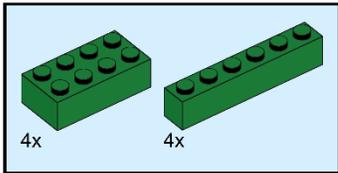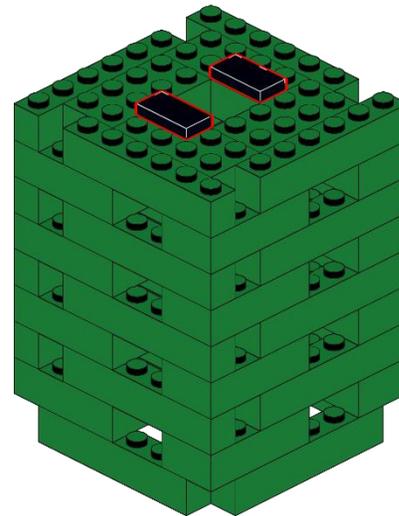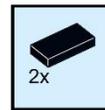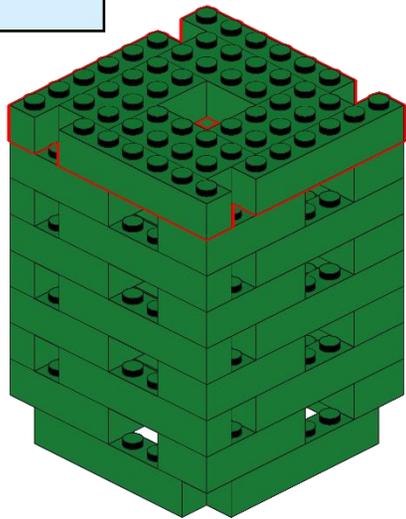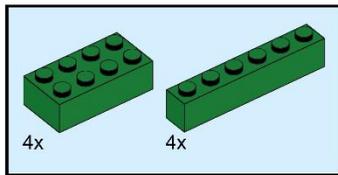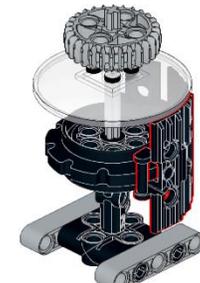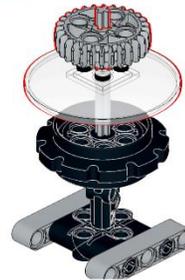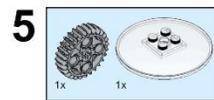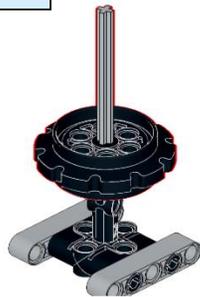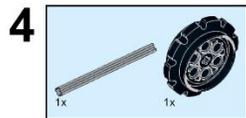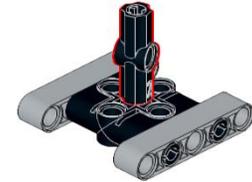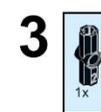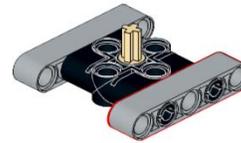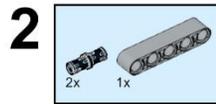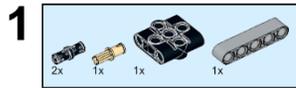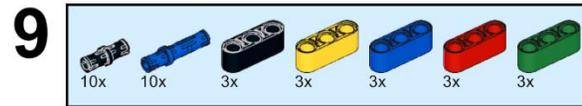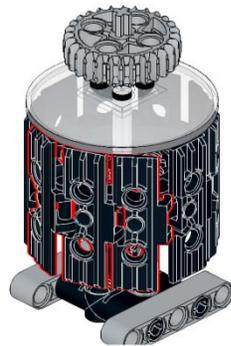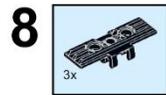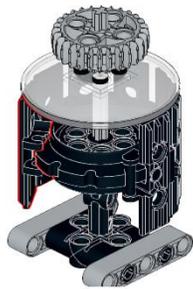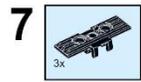
Lock (Alternate build) (1x)

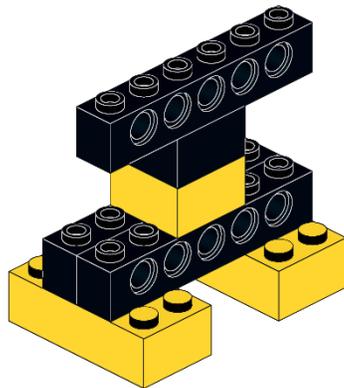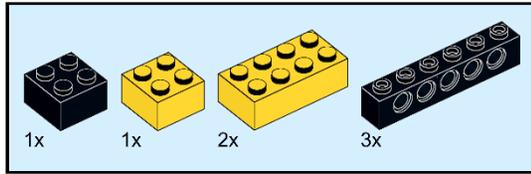If teams are unable to obtain the necessary parts for building the lock (track and gear), Zone01 provides a replacement solution that can be 3D printed.

For Zone01 event, the track and gear model will be used.
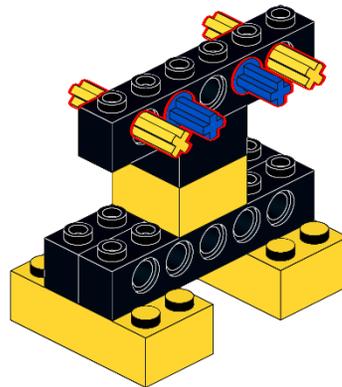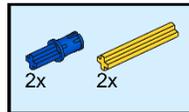
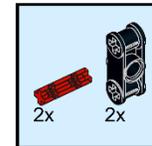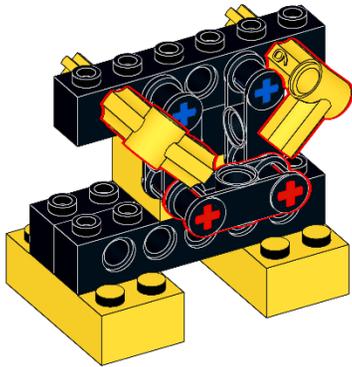The STEP file can be downloaded with this link.
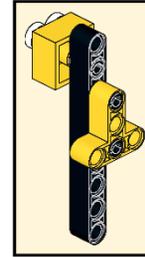
1 1x 1x 1x 2x

2 1x 1x

3 1x 1x

4 1x

Froola Guardians (2x)

Robot ZONE [01]

4

1x 2x

5
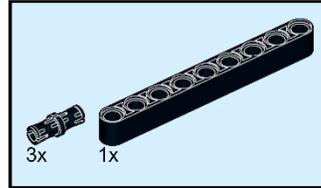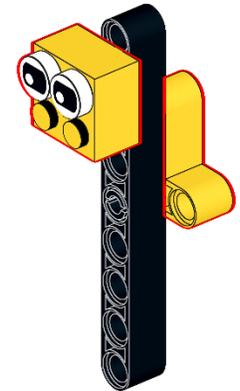
3x 1x

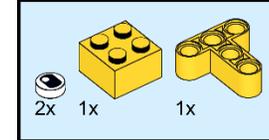**6**

2x 1x 1x

Robot ZONE [01]

7

8

2x
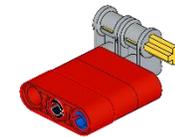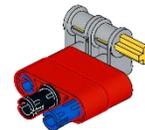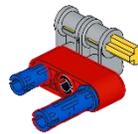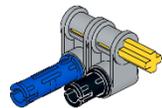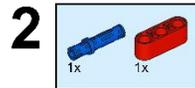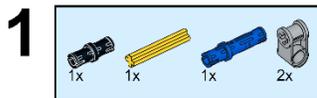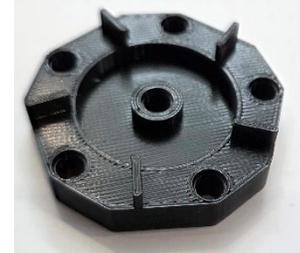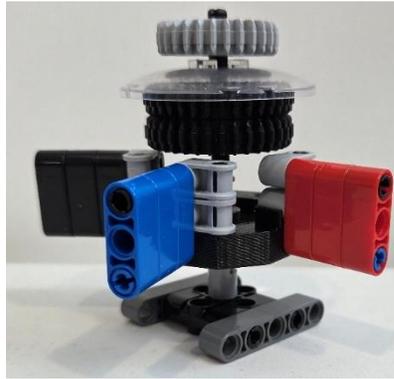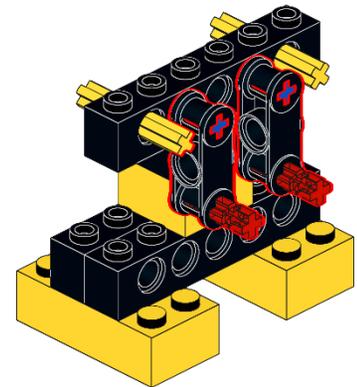
Gold coins (6x)

2x with blue pieces

4x with red pieces