

**Robot ZONE [01]**

# Saving Merodian

**Educational  
Challenge**

**2026-02-22**

## 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?

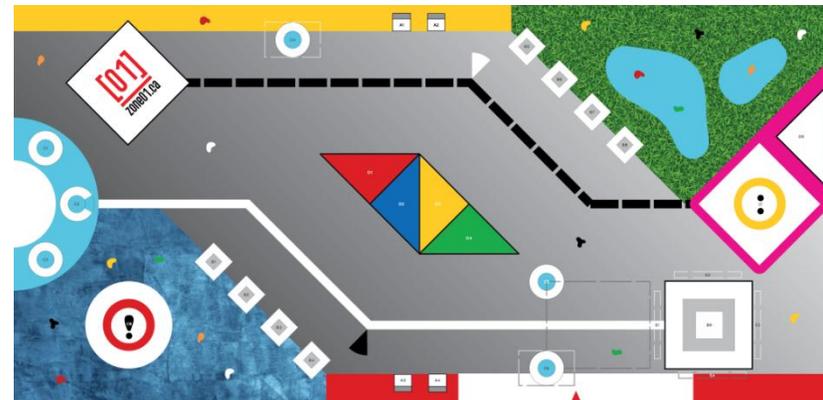
## Description of the robot

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 (Spike Prime, EV3, etc.).
3. The challenge is performed in autonomous mode. The program must be downloaded to the robot BEFORE the round.

## Playing field

Mat used: Z01-L (new in 2026)



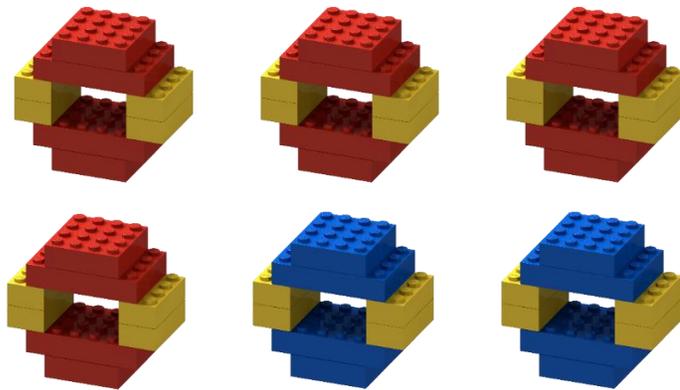
The mat is available at the [Zone01 shop](#).

There is no wall around the playing field.

## Description des accessoires

### 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.



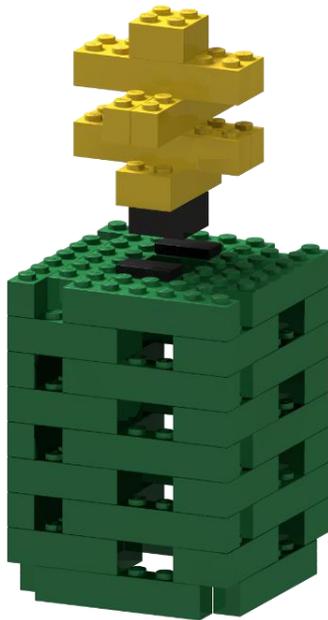
### Lock

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.



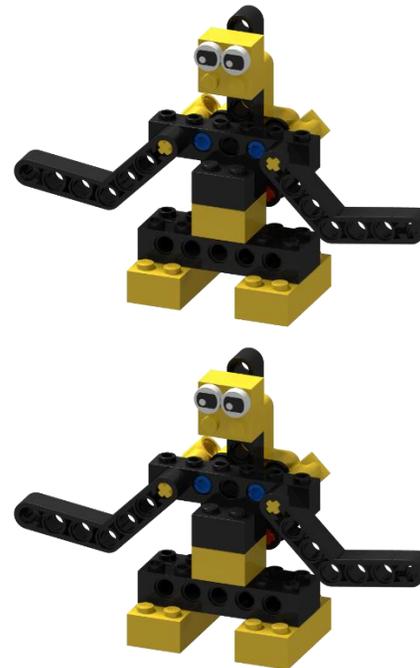
## The Star of Zadel and the Dungeon Tower

The Star of Zadel is Merodan'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.



## 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.

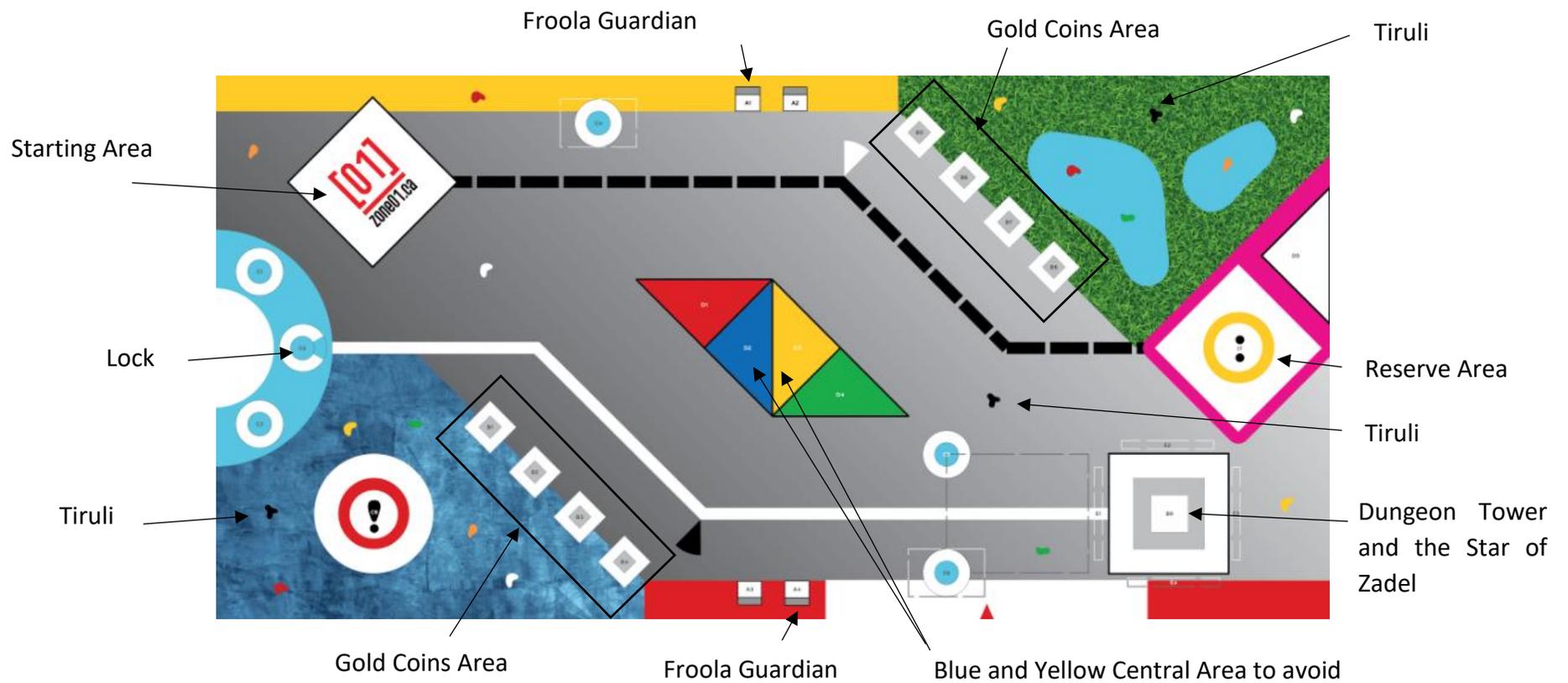


## Tirulis

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.



## Position of the accessories



## Gold Coins

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

The exact position of each coin will be announced on the morning of the competition and will remain the same throughout the day.

## **National final for 13-19 year olds**

**The position of the 6 gold coins will be randomly determined for each attempt for each team in positions B1 to B8.**

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

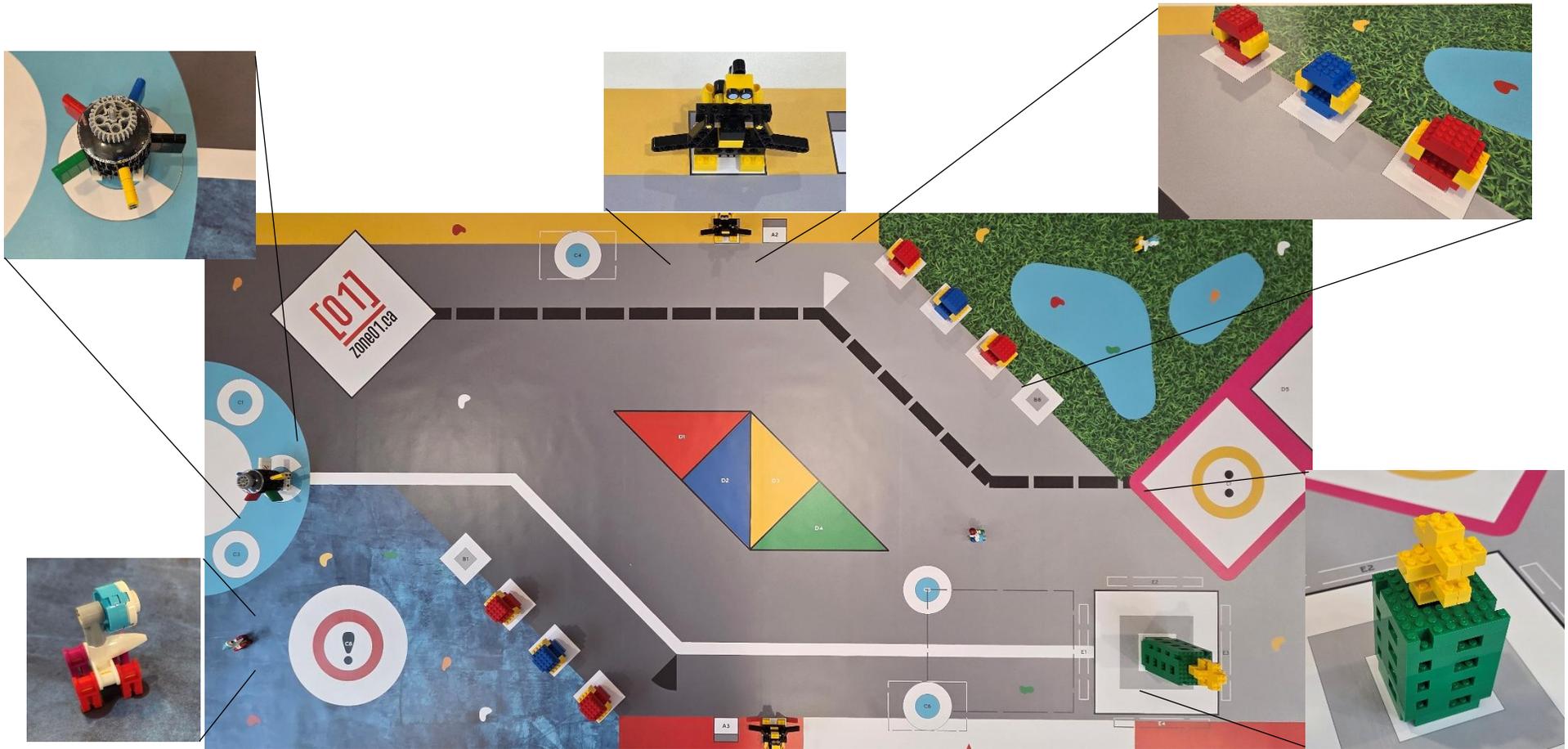
Dungeon Tower: Centered on the white square B9, the two small black pieces parallel to the short side of the mat.

Star of Zadel: Placed on the dungeon tower and inserted into the small cavity. 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.

## View in 3D with accessories



## Missions

### Start

- The team places the robot entirely within the starting area and selects the program it wishes to run. The judge then positions the random elements if necessary. The team may not modify the program after randomization, nor enter data in any way (buttons, colors, movements).
- At the judge's signal, the team activates the robot by pressing the brick button or a touch sensor. The robot can perform the tasks in any order.
- The challenge ends when a team says "STOP," touches the robot, or when the maximum time of 2 minutes has elapsed.
- 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.

Bonus points are awarded if the gold coins are placed vertically, standing only on their yellow bases.

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.

### National final for 13-19 year olds:

The color used to reset the lock will be randomly selected. A colored plate made of 4 LEGO 1X6 pieces will be placed in circle C4 and will indicate the color of the lock to be aligned with the white line.

## 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.

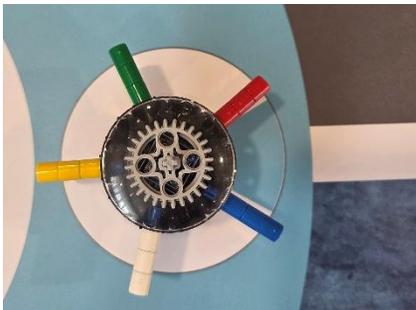
## Scoring

Missions	Chacun	Points max
Froola neutralized (arms up)	8	16
Red gold coin in the reserve, standing upright on its yellow base	7	28
<i>Red gold coin in the reserve</i>	5	20
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
<b>Penalties</b>		
Move the dungeon tower outside the grey square		-3
Injure a Froola Guardian		-4
Damage the lock		-5

Solve the surprise rule		20
<b>Total points max</b>		<b>120</b>

## Interprétation du pointage

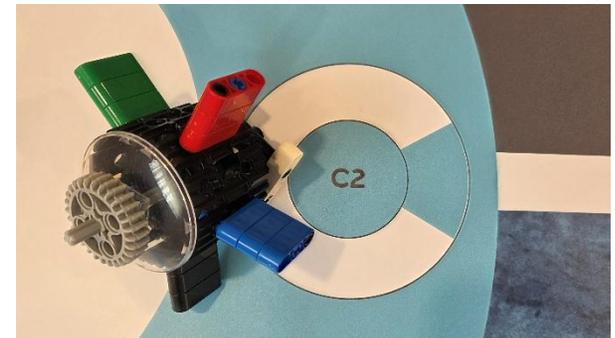
### Lock



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

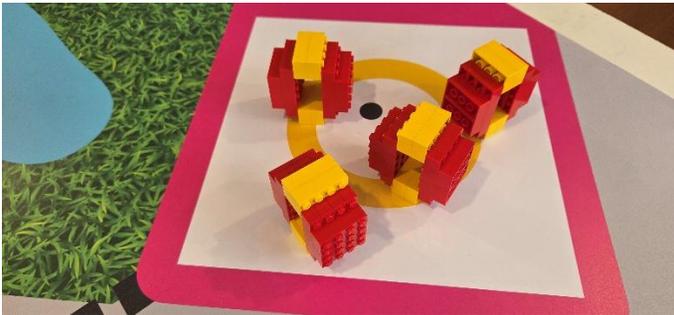


Target color in cyan, 11 points

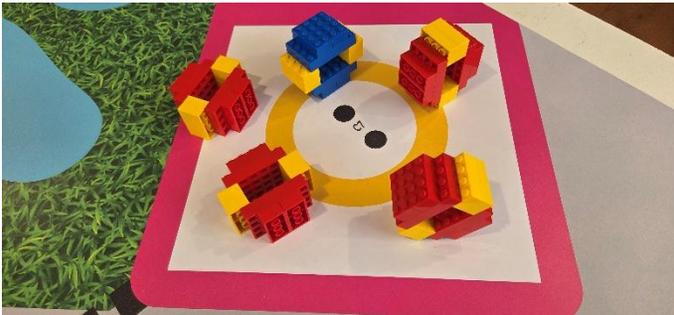


Damaged lock = -5 points

## Gold coins



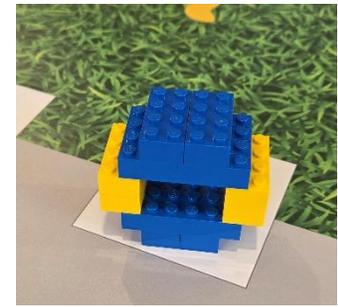
4 red gold coins standing upright on their yellow bases completely within the white square = 28 points



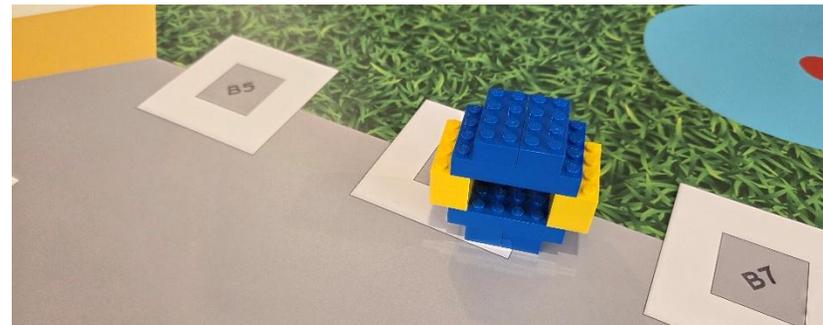
1 vertical red gold coin on its yellow base + 2 red gold coins completely inside =  $7+5+5 = 17$  points



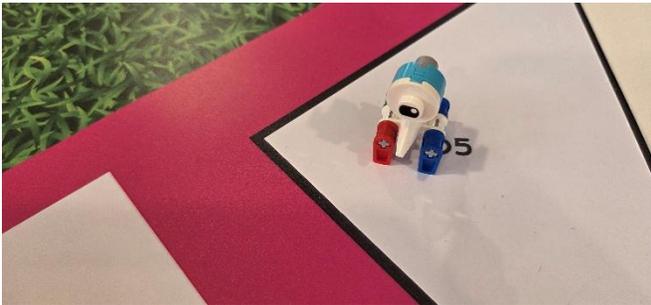
Blue gold coin not moved = 3 points



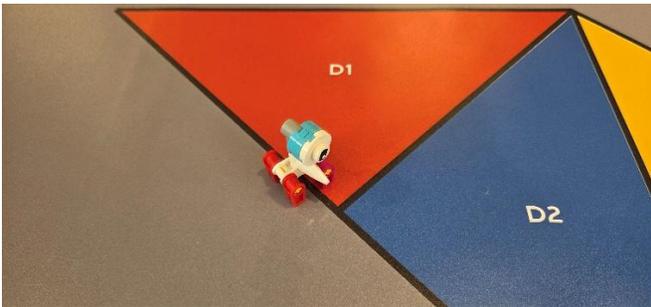
Blue gold coin moved = 0 point



## Tirulis



Tiruli in one of the triangles D1, D4, or D5 = 6 points



Tiruli partially in one of the triangles = 0 point

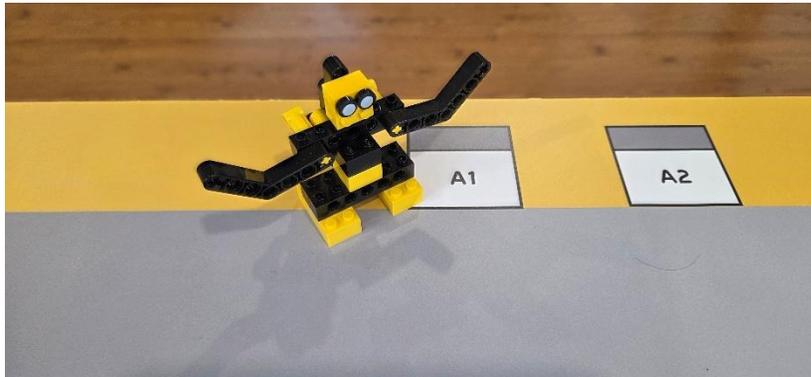


3 Tirulis in the same triangle D1, D4, or D5 =  $6+6+6+5 = 23$  points



Tiruli in a forbidden triangle = 0 point

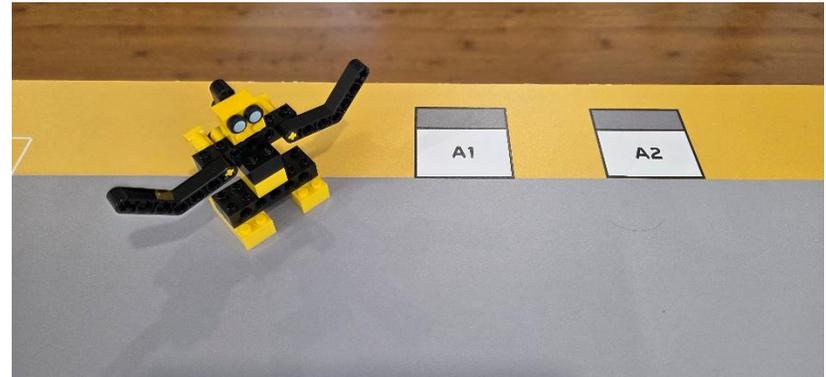
## Froolas Guardians



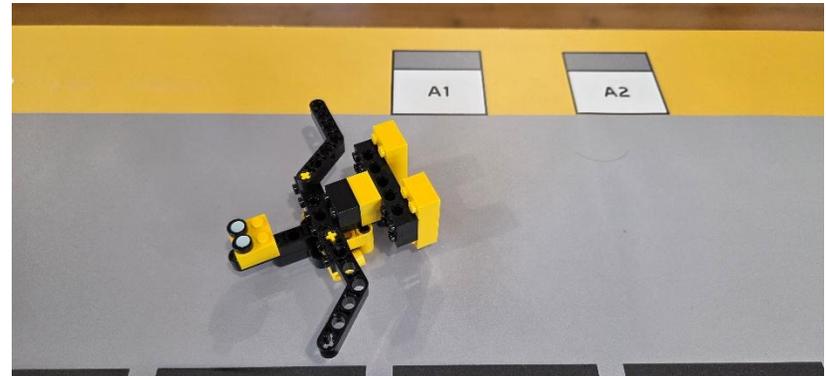
Froola neutralized (arms up) touches his white rectangle = 8 points



Froola not neutralized = 0 point

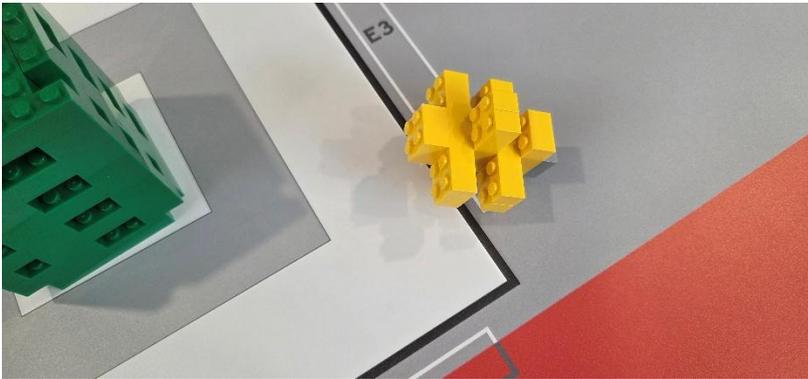


Froola outside its white rectangle = 0 point

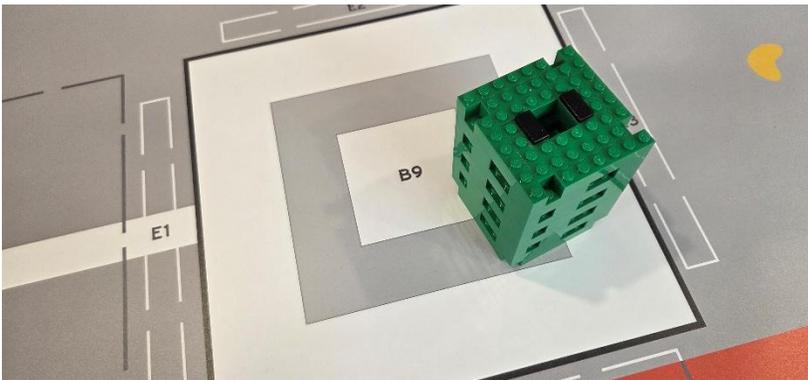


Damaged Froola = -4 points

## Dungeon Tower and Star of Zadel



Star of Zadel on the ground and undamaged = 9 points

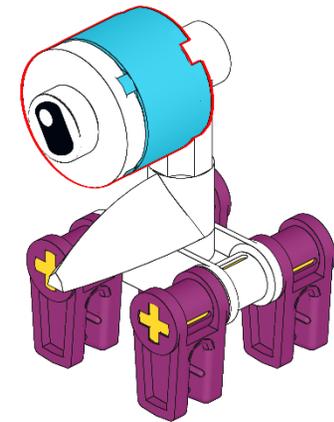
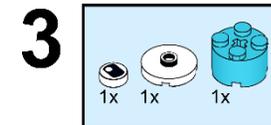
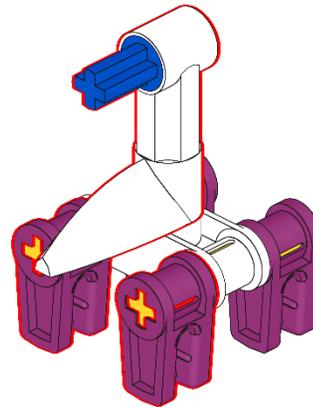
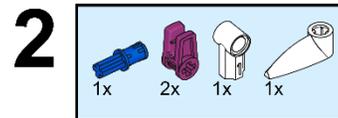
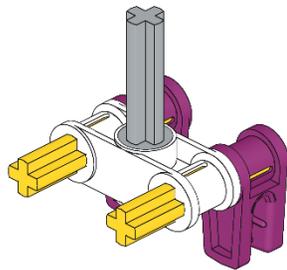
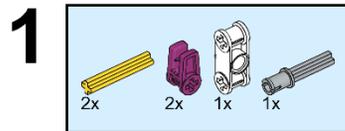


Dungeon tower touches outside of grey rectangle = -3 points

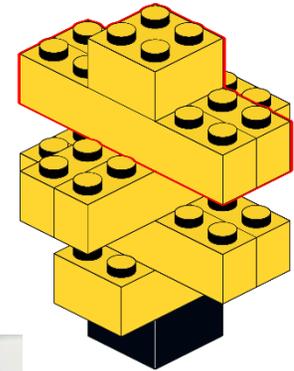
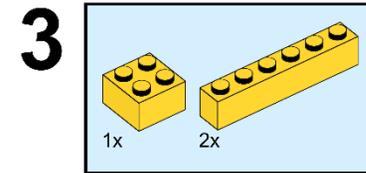
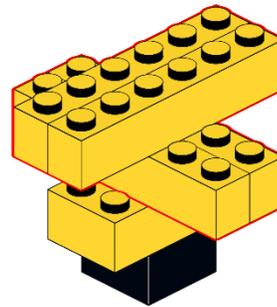
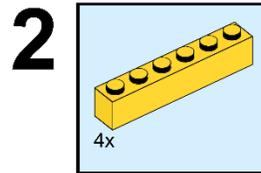
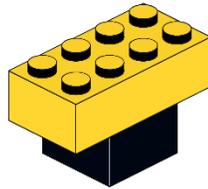
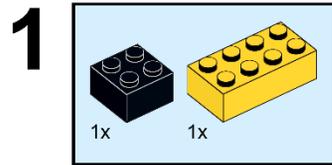
## Building Instructions

Tirulis (3x)

The color of the pieces is not important.



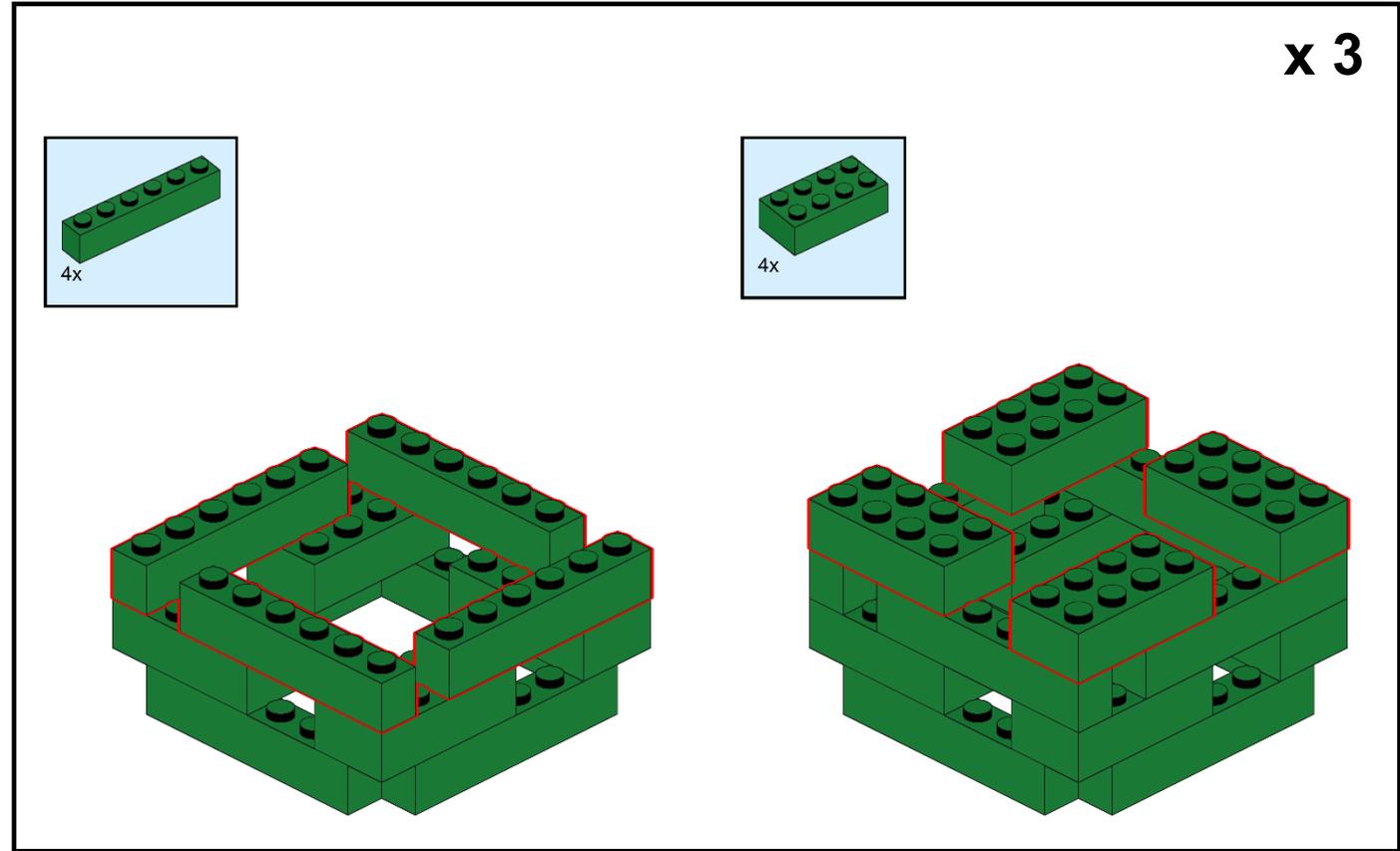
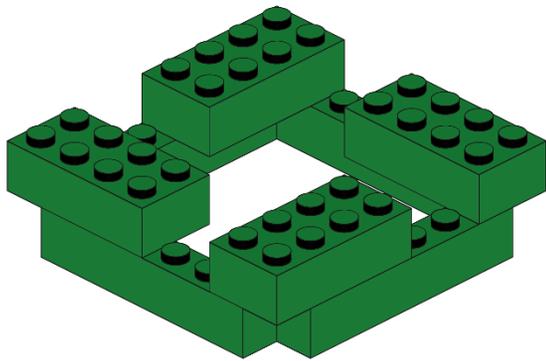
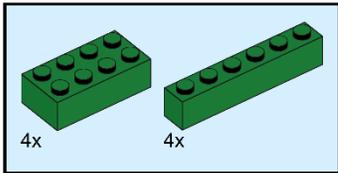
## Star of Zadel (1x)

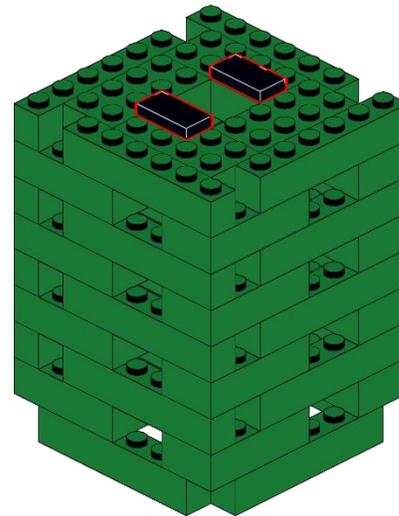
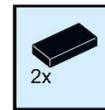
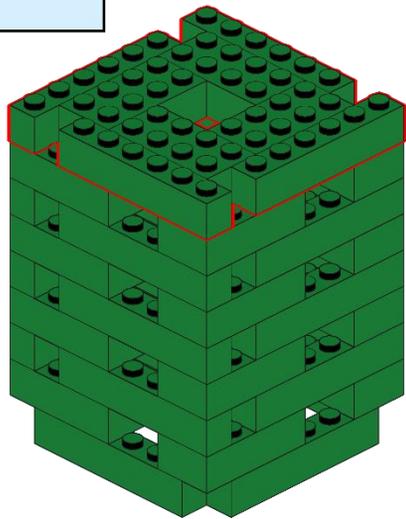
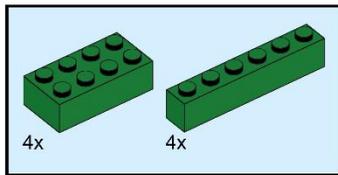


Note: For the 10-12 age group, the black 2x2 brick will be replaced by two 2x2 thin grey bricks.

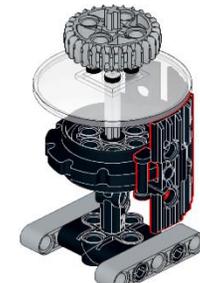
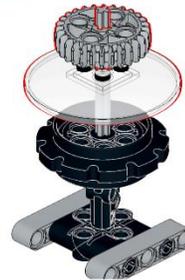
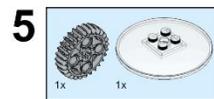
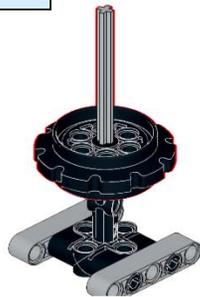
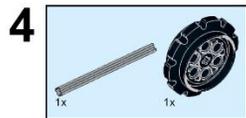
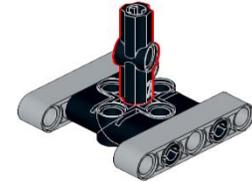
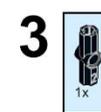
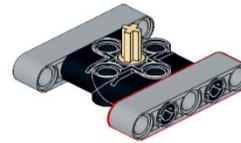
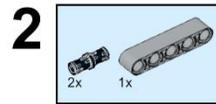
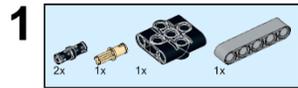


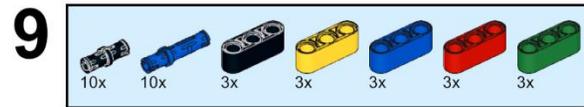
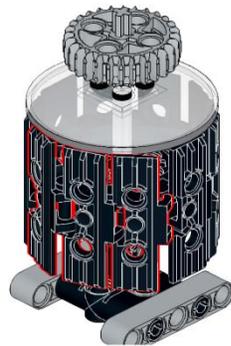
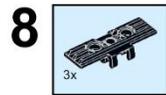
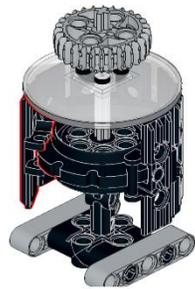
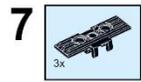
## Dungeon Tower (1x)





Lock (x 1)

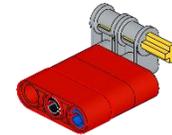
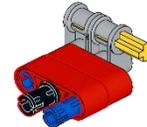
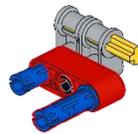
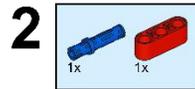
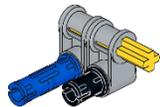
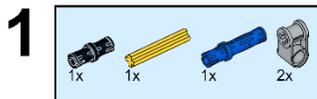
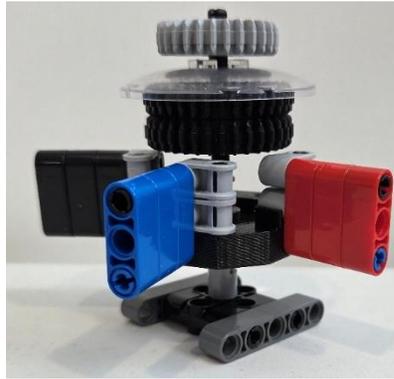




## Lock (alternate build) (1x)

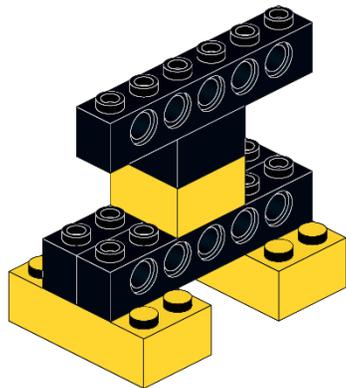
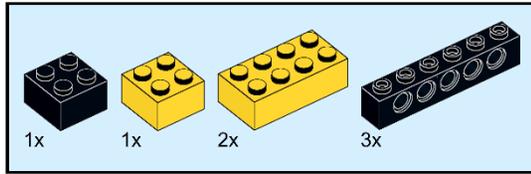
If teams are unable to obtain the necessary parts for building the lock (track and gear), Zone01 provides a replacement solution that can be 3D printed.

The STEP file can be downloaded with [this link](#).

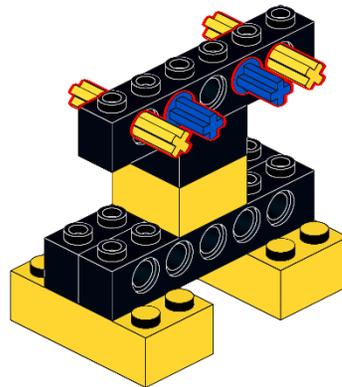
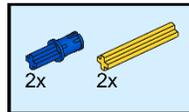


## Froola Guardian (2x)

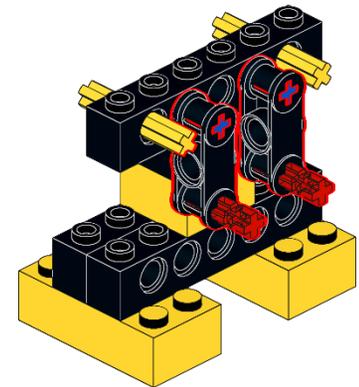
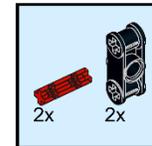
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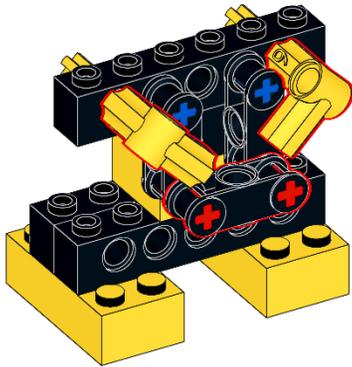
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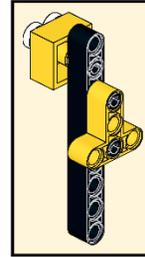
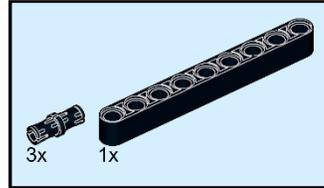
3



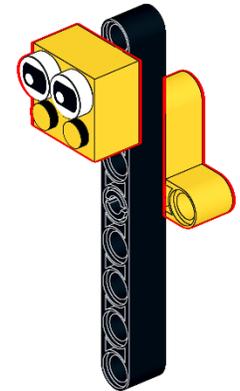
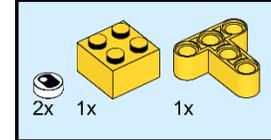
4



5



6





Gold coins (6x)

2x with blue pieces

4x with red pieces

