

# ENGINEER CHALLENGE KIDS AGE GROUP

21st – 25th January 2023

2022/2023

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# Game Mat

Below you can see the game mat:



# Game Objects

**Important:** whenever a game object has to be placed on an area the bordering lines of the area are not considered part of the area. If there is no bordering line then the edge of the color of the area is considered the border.

## White paper

**Amount:** 3

**Size:** A/4

**Placement:** first you have to crease the papers into paper balls. Then place one in each of the circles in the lower left part of the game field that is marked with a red X in the picture below.

## Colored paper

*(color is up to you)*

**Amount:** 3

**Size:** A/4

**Placement:** first you have to fold three origami animals out of them and place one animal in each green square on the game field. Here are two easy options for origami animals, but you can create any origami animal that fits inside the green squares:

Dinosaur: [How To Make an Easy Origami Dinosaur](#)

Crab: [How To Make Simple and Easy Origami Crab - Fun Origami Animal - Origami Paper Crab for Beginners](#)

## Glass / cup

*(can be made of plastic or glass)*

**Amount:** 1

**Size:** base diameter max. 45 mm and mouth diameter max. 70 mm (height does not matter)

**Placement:** you have to flip it upside down so that the mouth touches the game field and place it completely inside the circle marked with a blue X in the picture below

## Lego mini figure

*(only head + body + legs, no other accessories allowed)*

**Amount:** 1

**Size:** standard Lego mini figure

**Placement:** the mini figure has to be sitting completely inside the circle next to the fire marked with a green X in the picture below.

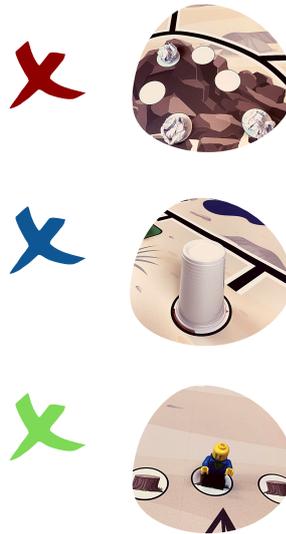
## Ruler

**Amount:** 1

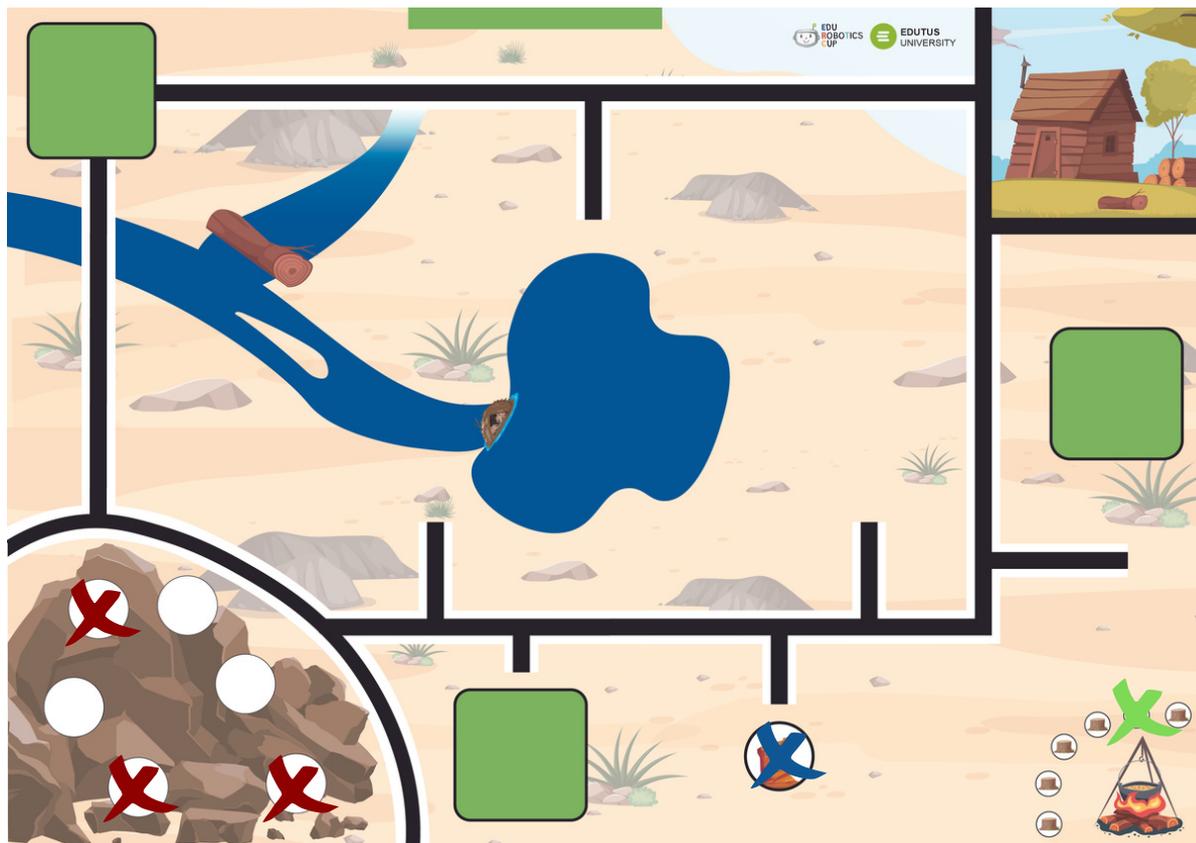
**Size:** 30 cm

**Placement:** to show us in the video that the game mat is of the correct size you have to place a ruler on or next to the green rectangle at the bottom of the game field

# Game objects on the Game mat



See picture below where to place the different game objects:



**In case of rule infringement:** If a game object is not placed on the game field in the correct position points for that object will not be awarded for the team.

# Game Tasks

The robot has to start completely inside the wooden house area in the upper left part of the game field.

## Thirsty animals

Take the origami animals to the lake in the middle of the game field so that they can drink fresh water. Place them in a way that they only touch the lake but not completely inside it, because not all of them can swim.

## Redirect the river

The lake is losing water because of the hot weather but you can direct the river water in the correct direction. Place the rocks from the mountain (paper balls) so that they at least touch the side branch of the river which is the part from the log to the black line.

## Cool down the kid

One of the children sat too close to the fire while cooking the lunch and got overheated. Help him get on top of a nearby rock so they can get some cool, fresh air.

## Protect nature

Do not move the rock that you have put the child on. Points are only awarded if any other points are achieved by the team from tasks 4.1., 4.2., 4.3.

## Parking

Make sure you return completely inside the wooden house area after being done with the tasks. Points are only awarded if any other points are achieved by the team from tasks 4.1. - 4.3.

# Scoring

Tasks	Score
<b>Thirsty animals</b>	
Origami animal is touching the lake and is in a standing position	<b>60</b> 20 / animal
Origami animal is touching the lake but is not standing up	45 15 / animal
Origami animal is no longer touching the starting green square area	15 5 / animal
<b>Redirect the river</b>	
Rock (creased paper) is touching the river at the correct section	<b>30</b> 10 / rock
Rock (creased paper) is touching the river but not at the correct section	15 5 / rock
<b>Cool down the kid</b>	
Kid (mini figure) is on top of the glass and is only touching the glass	<b>30</b>
<b>Protect nature</b>	
The glass completely stayed inside the starting circle area	<b>30</b>
The glass still touches the starting circle area	10
<b>Parking</b>	
Robot parked completely inside the wooden house area	<b>10</b>
<b>Technical points</b>	
Recorded and uploaded video includes all requested parts: <ul style="list-style-type: none"> <li>• robot,</li> <li>• game field and game objects,</li> <li>• robot run,</li> <li>• end position of robot and game objects.</li> </ul>	<b>10</b>
The team uploaded only one video file and one program documentation, which apply to the requested format and naming format.	<b>5</b>
<b>Total score</b>	<b>175</b>

## Definitions for scoring

**Completely inside:** every part of the game object that touches the game field only touches the target area not including the surrounding line.

**Touching:** the game object touches the target area not including the surrounding line. Important that in this case the game object is not completely inside the area, because that is a different case.