

ENGINEER CHALLENGE TEENS AGE GROUP

21st – 25th January 2023

2022/2023

www.educup.org

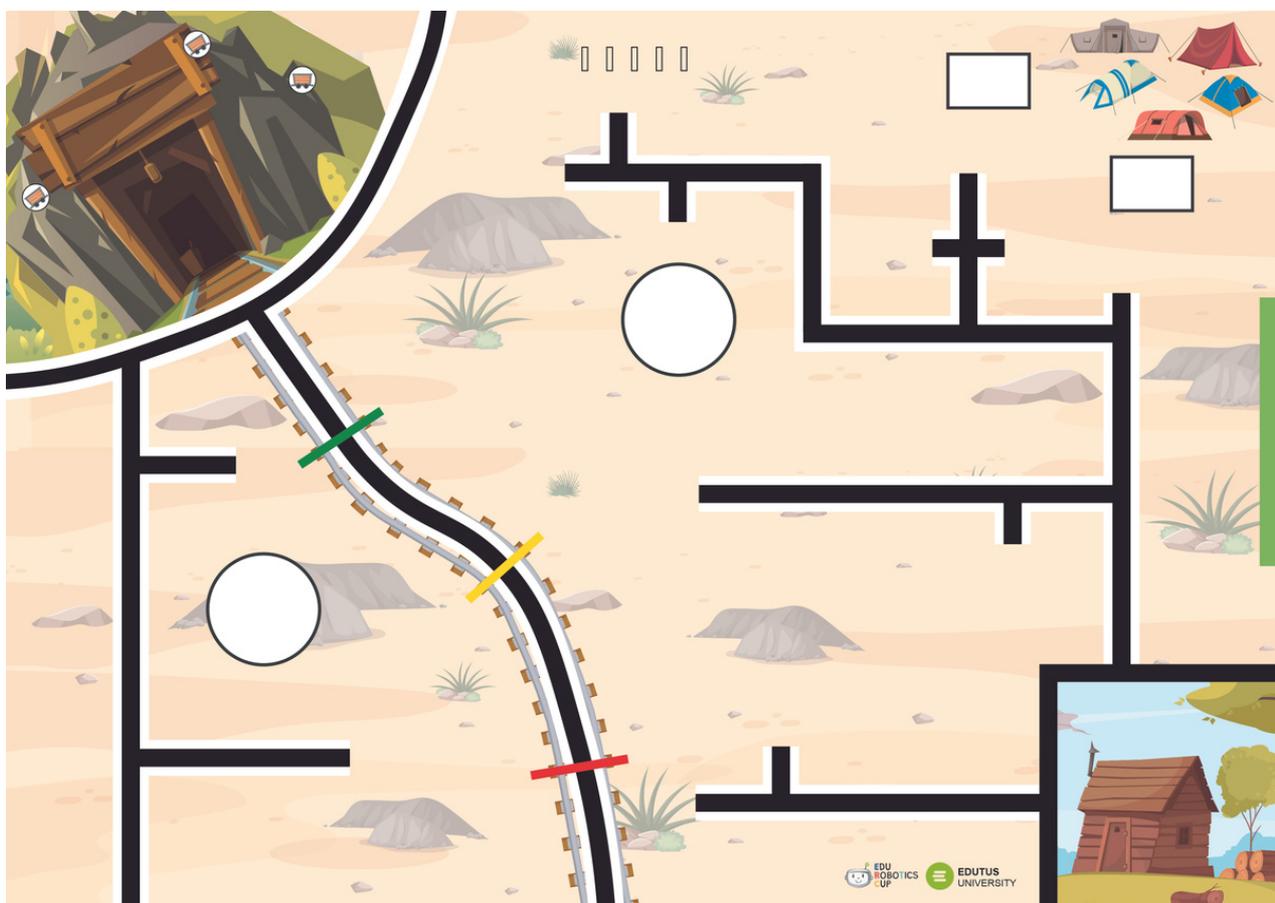


Table of **Contents**

- 1 Game mat**
- 2 Game objects**
- 3 Game objects on the game mat**
- 4 Game tasks**
- 5 Scoring**

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.

Match box *(only the bottom)*

Amount: 2

Size: standard small match box (35 x 53 x 10 mm)

Placement: you only need the inside of the match boxes. They start with their open side somewhere completely inside the rectangle white area in the upper right part of the game field

Table tennis ball

Amount: 3

Size: standard 40 mm diameter

Placement: each ball goes on a plastic bottle cap

Plastic bottle cap

Amount: 3

Size: standard size 23 – 28 mm diameter

Placement: put one with open side up completely inside each circle area marked with wagons in the upper left corner of the game field

Domino pieces

Amount: 5

Size: 40 x 20 x 5 mm

Placement: standing up next to each other on the thin rectangles in the top part of the game field (marked with red circle in the picture below)

Socks

Amount: 2 (piece, not pair)

Size: any size

Placement: make both socks into balls and put them completely inside the two big white circles on the game field (marked with red S in the picture below)

Shoe

Amount: 1

Size: any size

Placement: the shoe should be along the bottom side of the game mat with the heel starting exactly at the bottom left corner of the game mat but outside the game mat.

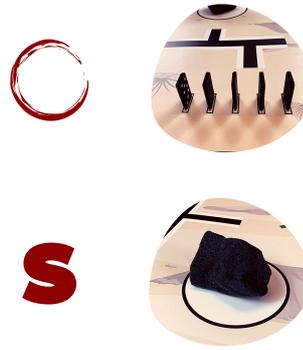
Ruler

Amount: 1

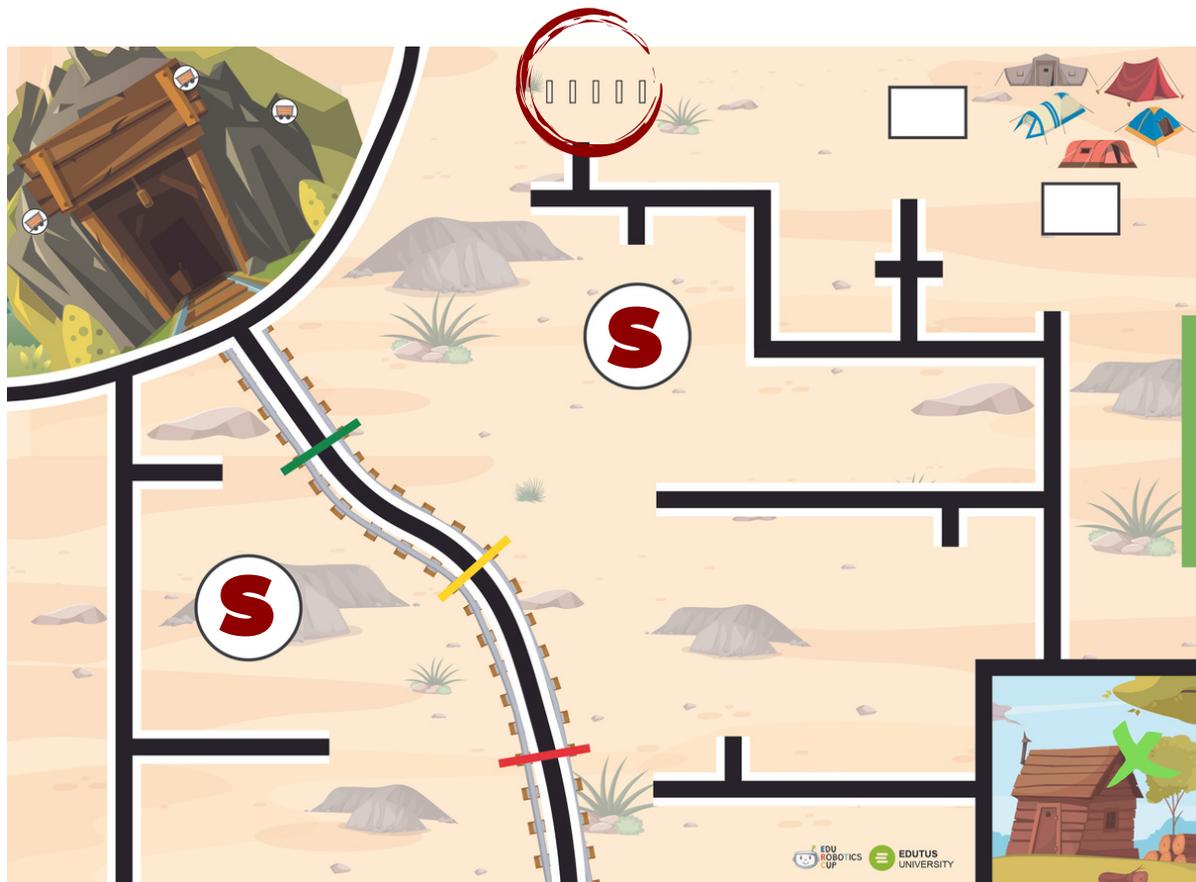
Size: 30 cm

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.

Gold digger leftovers

You heard some rumors that in the past people were looking for gold in the abandoned mine. You check it out and find three wagons with some nuggets of gold in them. Push the wagons outside the mine.

Reuse dried out plants

Some dried out trees should be chopped down as resource for a new wooden house. Take the best one to the lumber-mill for further processing.

Collapsed tents

Some camping children got into trouble as the wind has blown their tent right from above their heads. They got so scared and ran away but left their mattresses behind. Take the mattresses to the wooden house.

Protect nature

Do not move the rocks on the game field. Points are only awarded if any other points are achieved by the team from tasks 4.1. - 4.3.

Parking

A storm is coming so make sure you park completely inside the mine 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

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.

Tasks	Score
Gold digger leftovers	
Wagon (plastic bottle cap) with the golden nugget (table tennis ball) is moved further than the red line (and its imagined extension) on the rail tracks	60 20 / wagon
Wagon (plastic bottle cap) with the golden nugget (table tennis ball) is moved further than the yellow line (and its imagined extension) on the rail tracks	45 15 / wagon
Wagon (plastic bottle cap) with the golden nugget (table tennis ball) is moved further than the green line (and its imagined extension) on the rail tracks	15 5 / wagon
Reuse dried out plants	
Dried out trees (domino pieces) are chopped down meaning that they are no longer in a standing position	25 5 / domino
The middle dried out tree is transported to the lumber-mill (completely inside the shoe)	30
Collapsed tents	
Mattress (inside of the match box) is completely inside the wooden house area	20 10 / mattress
Protect nature	
The rock (ball of sock) completely stayed inside the starting circle area	20 10 / sock
Parking	
Robot parked completely inside the mine area	10
Technical points	
Recorded and uploaded video includes all requested parts: <ul style="list-style-type: none"> • robot, • game field and game objects, • robot run, • end position of robot and game objects. 	10
The team uploaded only one video file and one program documentation, which apply to the requested format and naming format.	5
Total score	180