

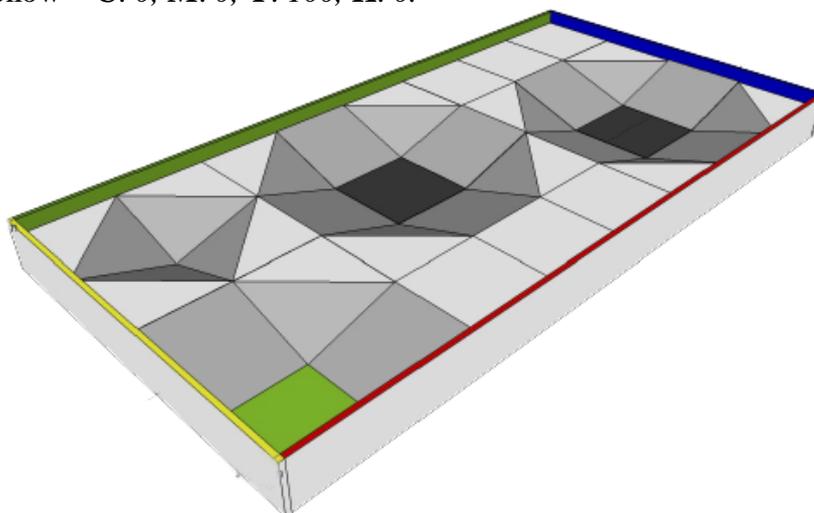


## Moon Craters

### 1. General provisions

#### 1.1. Field

- 1.1.1. The field represents a tabletop with banking boards, filled with a set of several types of elements.
- 1.1.2. The banking boards height over the tabletop level is 150 mm.
- 1.1.3. The field inner size is 1200 x 2400 mm.
- 1.1.4. The banking boards are differently colored to determine the cardinal points:
  - Green – **C: 100, M: 0, Y: 100, K: 0**;
  - Blue – **C: 100, M: 100, Y: 0, K: 0**;
  - Red – **C: 0, M: 100, Y: 100, K: 0**;
  - Yellow – **C: 0, M: 0, Y: 100, K: 0**.



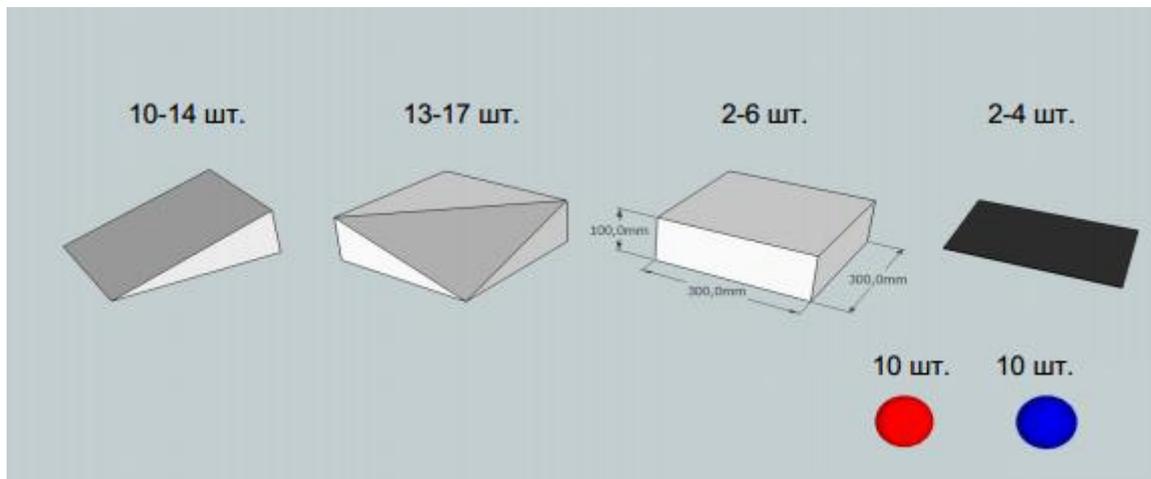
#### 1.2. Landscape elements

- 1.2.1. Element size – 300 x 300 x 100 mm<sup>1</sup>, material — PVC.
- 1.2.2. The black insert height (3-5 mm) corresponds to that of the chute bottom part.
- 1.2.3. Color variations:
  - white on the top, gray on the inclined surface — **C: 0, M: 0, Y: 0, K: 40**;
  - dark gray at the bottom – **C: 0, M: 0, Y: 0, K: 80**;
  - light green “Base Camp” – **C: 70, M: 0, Y: 100, K: 0**.
- 1.2.4. Several dozens of positioning variants are possible subject to absence of open vertical surfaces of elements.

<sup>1</sup> At the moment of fabrication - 298x298x100 mm.



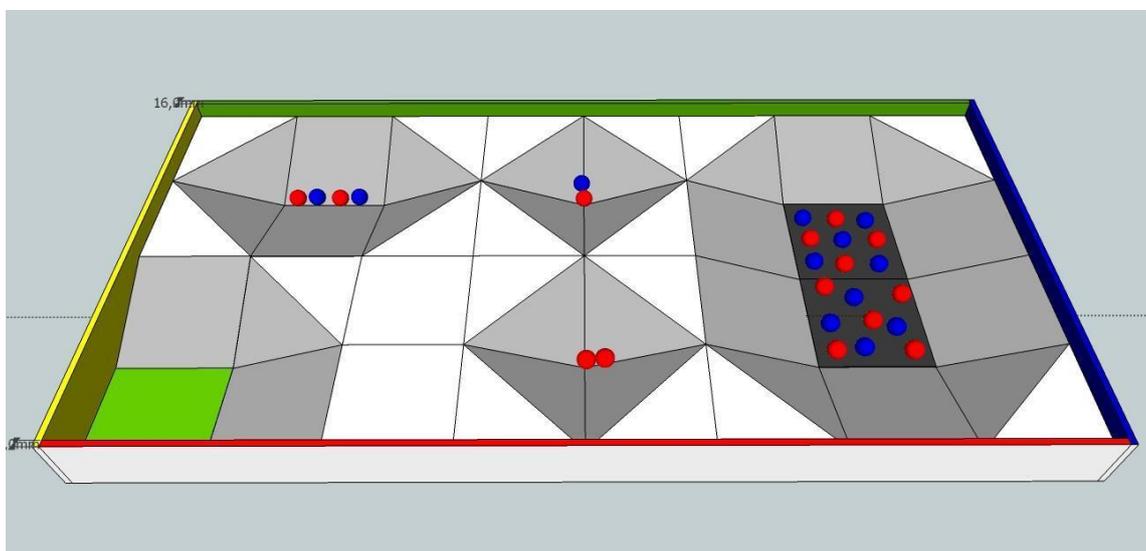
# ROBOFINIST



From left to the right  
 10-14 pcs.  
 13-17 pcs.  
 2-6 pcs.  
 2-4 pcs.  
 10 pcs.  
 10 pcs.

### 1.3. Minerals

- 1.3.1. The craters are filled with commercial minerals that may contain water (blue LEGO balls).
- 1.3.2. Red LEGO balls symbolize barren rock.
- 1.3.3. Ball diameter — 51 mm.
- 1.3.4. The balls may be placed on holding elements such as 2x2 LEGO plates.
- 1.3.5. Maximum number of blue balls in the field — 15 pcs.
- 1.3.6. Maximum number of red balls in the field — 15 pcs.





## **2. Requirement to Robots**

### **2.1. Main specifications**

- 2.1.1. The robot size at the start must not exceed 25 x 25 cm.
- 2.1.2. In the process of motion, the robot sizes may change.
- 2.1.3. The robot height at the start must not exceed 25 cm.
- 2.1.4. The robot weight is unlimited.
- 2.1.5. The robot must be fully self-sustained.
- 2.1.6. The robot may be fabricated of any materials but so that not to damage the competition field. Otherwise, the robot may be disqualified.

## **3. Game**

### **3.1. Objective of game**

- 3.1.1. Within 2minutes, the robot must deliver a maximum number of blue balls into the green zone.

### **3.2. Preparation**

- 3.2.1. 120 minutes before the robots submittal into quarantine, the number of balls of the both colors and the craters positioning become known that will remain unchanged throughout all the rounds.
- 3.2.2. Before each round, the robots are submitted into quarantine. The balls positioning is determined while the robots are in quarantine. Throughout the round, it remains unchanged.

### **3.3. Start**

- 3.3.1. At the start, the robot must be fully within the Base Camp green zone.
- 3.3.2. The robot must be manually activated or initiated at the contest start by the referee's signal; after that the robot work is not to be interfered with. Remote control and issue of any commands for the robot are prohibited.

### **3.4. Finish**

- 3.4.1. The assignment completion is terminated by the referee's command after two conditions are satisfied:
  - assignment set fully completed;
  - Robot fully stopped within the Base Camp zone.
- 3.4.2. By the referee's decision, the attempt may be over ahead of time.

### **3.5. Assignment completion discontinuation**

- 3.5.1. The assignment completion may be interrupted (with time stopped) in the following cases:
  - If any member of the team has touched the robot body.
  - If the finish condition has been satisfied (see Clause 3.3.).
  - If the competition procedural rules have been violated.
  - If the time allocated for completion of the assignment has expired.
- 3.5.2. The operator may ask the referee to early stop time by way of saying aloud “STOP” and raising a hand.

## **4. Points tally and winner nomination rules**

- 4.1. In the intervals from the 45th second to the 60th second, from the 90th second to the 105th second and further on after the 120th, the referee retrieves all the blue balls from the Base Camp green zone.



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- 4.2. For each blue ball retrieved by the referee from the Base Camp green zone, the robot scores 10 points.
- 4.3. For each blue ball within the robot body over the green zone at the attempt end, the robot scores 10 points.
- 4.4. For each blue ball within the Base Camp crater zone but outside the green zone at the attempt end, the robot scores 5 points.
- 4.5. For each red ball within the Base Camp over the green zone at the attempt end, the robot receives a fine of minus 5 points.
- 4.6. As soon as all the blue balls are in the green zone, the attempt time is stopped.
- 4.7. The winner is the robot having scored the maximum points in one of the attempts. Two robots having scored an equal number of points in their best attempt, the second attempt is evaluated. In case of equality of points scored in the second attempt, the robot having accomplished the assignment within the minimum time wins.