RoboRAVE Greece
Today's Play, Tomorrow's Pay

Junior Catapult Launchers

Ages 4–7 years

Official handbook 2026
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RoboRAVE Greece

Our slogan is : "Today's Play, Tomorrow's Pay."

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RoboRAVE International
A Collaborative Robotics Program

1. General Information

1.1 What is the Junior Catapult Launchers competition?

The Junior Catapult Launchers is an introductory and completely safe category for children aged 4–7. Children use a simple, mechanical catapult to launch small objects into target zones. The event fosters creativity, coordination, basic understanding of physical concepts, and self-confidence.

1.2 Philosophy of the Competition

The competition is purely educational in nature. It allows many children from the same educational organization to compete, allowing the use of the **same catapult** by many children, thus reducing costs and expanding participation.

It is allowed for the same catapult to be used successively by different children of the same organization.

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2. Who Can Compete?

- Ages: **4–7 years old**
- Participation: **Individual** (no groups)

The awards will be individual and per organization (see paragraph 11. Awards)

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3. Construction Specifications

1. The catapult can be built from **any educational kit** .
2. No **electronics** , **motors** , **sensors** , **remote control** or any active system are allowed.
3. The catapult operates exclusively by **mechanical means** (rubber bands, levers, springs, etc.).
4. The catapult must fit entirely within the launch zone.
5. The launching objects are provided by the organizers (cubes from kits Lego)

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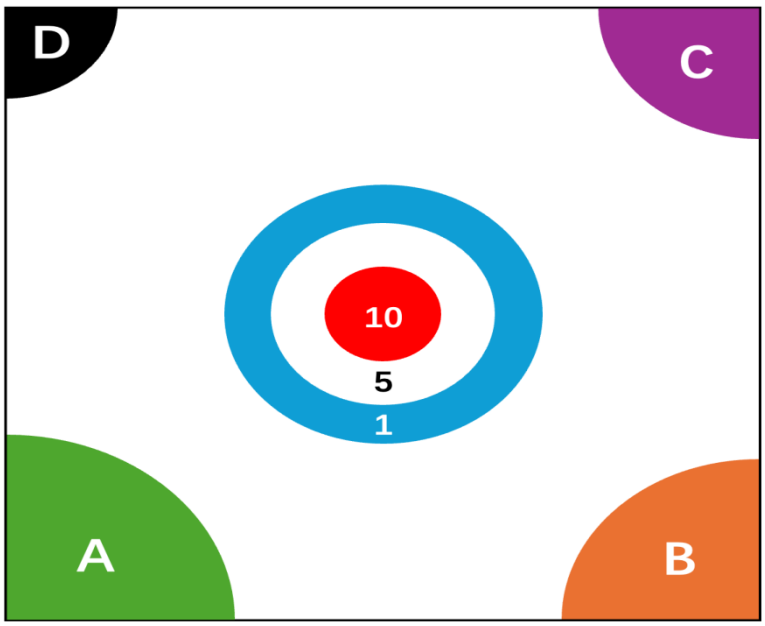
4. The Field of Play

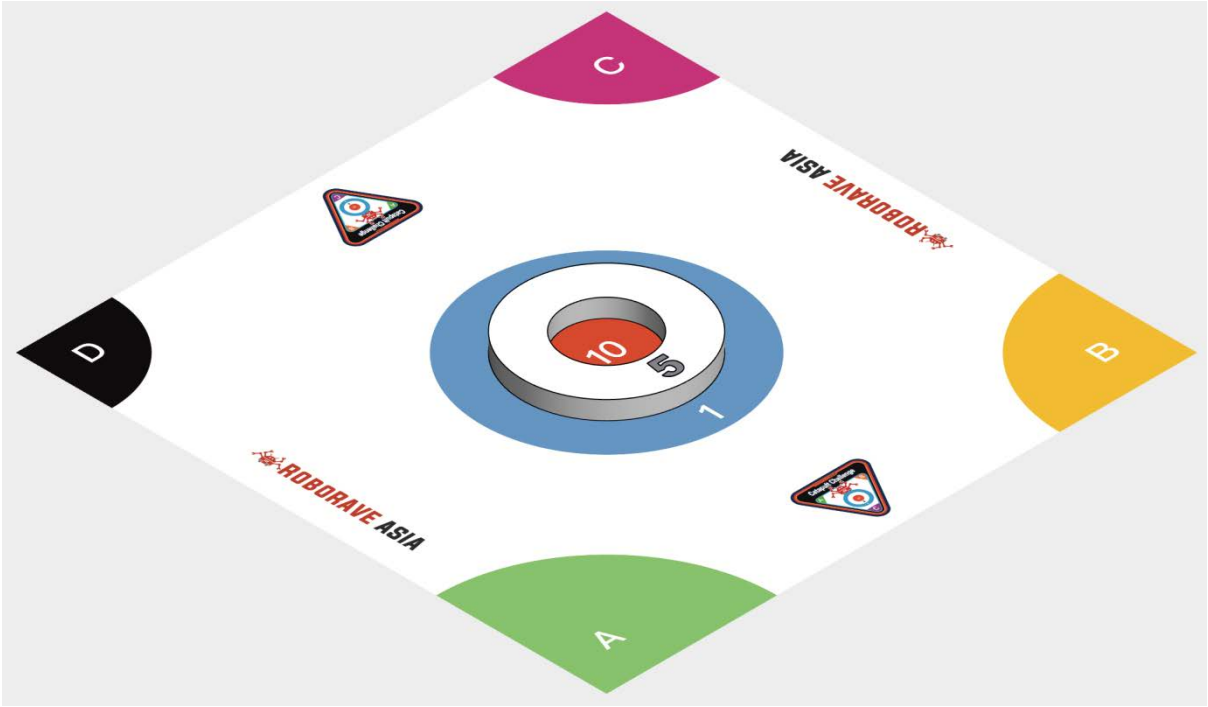
The field consists of:

- PVC foam board base : **120 × 120 cm × 0.3 cm**
- 4 launch zones (A/B/C/D)
- Central target field with scoring rings:
- 10 points: diameter 17 cm
- 5 points: diameter 34 cm (1.5 cm raised)
- 1 point: diameter 51 cm
- Central obstacle (foam) ring) used in the second mission.

Dimensions may vary by ±10%.



The competition track



The track with the Central obstacle (foam) ring) of the second mission

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5. Launch Objects

- Each child throws a total of **12 objects** (3 per zone) for the 1st mission and 12 **objects** (3 per zone) for the 2nd mission .
- The weight and material are standardized (2 x 2 Lego cubes) and provided by the organizer.

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6. Competition Rules

6.1 Match Duration:

Each student has **5 minutes** to complete both missions. The time includes all launches and minor adjustments to the catapult.

6.2 How the match is conducted:

The competition process is designed to be **simple, understandable and friendly** for young children.

Step 1 – Catapult installation

The student stands in the launch zone indicated by the referee. The catapult must be placed **entirely within the zone** , without exceeding it.

Step 2 – Preparing for throwing

The student takes a projectile (LEGO cubes) and places it in the designated position of the catapult. The referee gives the signal to start the launch.

Step 3 – Perform launch

The child activates the catapult **by hand** . After launching, the student waits for the object to come to a complete stop on the target field.

Step 4 – Moving to the new zone

Each zone (A, B, C, D) is used for 3 launches. The student follows the order indicated by the referee, and places the catapult in a new zone, so as to compete in all zones in the same way.

6.3 The two Missions

The missions are designed so that children feel like they are moving from an "easy stage" to a "difficult stage."

Mission 1 – The basic launch (without obstacle)

The goal is for the child to become familiar with the catapult and aim the target rings without any obstacles in the center. This is the introductory mission.

- 3 launches from each zone
- Goal: to hit the 1, 5 or 10 point rings
- The central field is completely free.

Mission 2 – The obstacle mission (advanced stage)

At the end of the first mission, a circular barrier (foam) is placed. ring) in the center, which makes the effort more difficult and more fun.

The student continues the race with 12 new throws. Time continues to run.

- The obstacle prevents straight shots
- The child must adjust the force or angle of the throw
- Scoring targets remain the same

7. Rating

Scoring is based on the **final position** of each item.

Scoring rules:

- If it touches a line between two zones, it receives the **highest score** .
- If he misses the target, he gets **0 points** .
- The final score is the sum of Mission 1 + Mission 2 points.

8. Catapult Control

Before the match:

- All catapults must be assembled.
- The referee checks for the complete absence of electronics.

9. Preliminary Phase

- Each student makes 2 official attempts.
- The ranking is based on the total score of both.

10. Final Phase

- The 8 best performances qualify for the final.
- The final is only done with Mission 2.
- Every child has one final attempt.
- In the event of a tie, an additional shot is taken.

11. Awards

Individual awards as well as awards per organization will be awarded.

Individual awards will be given to:

- **1st place – Champion**
- **2nd place – Runner - up**
- **3rd place – Third Place**
- Participation prizes for all children

Also, the grades of the children of each organization during the qualifying rounds will be added and their average will be calculated (condition is that at least 5 students per organization participate). Each organization will have a score of their students and a ranking of 1st, 2nd, 3rd place will be issued for the organizations .

The competition aims to create a first, joyful and safe competitive learning experience for our young participants.

" Today's Play , Tomorrow's " Pay ."