

***General Rule:** Check the general rule before reading this game rule. Please be aware that the general rules apply equally to all events during the competition.


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Bouncy Squirrel

League
Junior

Participation


1
 Person


1
 Robot

Construction
Pre-made

1. Game Description

Squirrels have a habit of stockpiling food. Because they are divided and stored in so many places, they sometimes forget where they are stored, and sometimes even where they will sleep is filled with food.

You should wirelessly control a pre-made robot to help squirrels hide their food in a safe place and distribute the full food for a comfortable bed.

It is a 1:1 competition event that uses only designated after-school KIT, and various obstacles and disruptors appear from time to time, so it is important to control the game operation strategy and robot skillfully. This event will be held face-to-face only.

2. Robot

2-1. Type of robot Only the following robots among certified manufacturers are selected as after-school kits are allowed.

Manufacturer	Robot type	
Robotis	Steamcup dream	Level 1,2,3,4
	Steamcup dream (II)	Level 1,2,3,4,5
	Steamcup smart	Level 1,2,3
	Steamcup smart (II)	Level 1,2,3
Rororobo	Steamcup smart (III)	Level 1,2,3,4
Robo	Schoolkit	Level 1,2,3,4,5,6,7
Probo	Technique	Level 1,2,3,4,5,6,7

2-1-1. Combination between certified kit manufacturers is not allowed.

(A manufacturer product level 1~2 + B manufacturer product level 3~4 (X))

But, combination between same manufacturer is allowed.

(A manufacturer product level 1~4 + A manufacturer product (O))

2-2. Composition

2-2-1. Production All robots must be pre-made before the competition, and no extra time for producing robots will be given on site.

2-2-2. Size Within 20cm x 20cm (W x L)

2-2-2-1. Size measurement

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- 1) Official measurement: Judge will measure the size of the robot before the game starts.
- 2) Way of measuring: Size must be measured with the robot turned on, using the measuring machine. Participant cannot object to the judgement.
- 3) Modification time: If over-sized, the participant is allowed to modify for 1 minute at the recording place of the playfield. If the participant can't modify within the limited time, they will be disqualified for the trial.

2-2-3. Weight Under 600g (Including battery, Without controller)

2-2-3-1. Weight measurement

- 1) Official measurement: Judge will measure the size of the robot before the game starts.
- 2) Way of measuring: Size must be measured using scale, and the participant cannot object to the judgement.
- 3) Modification time: If over-weighted, the participant is allowed to modify for 1 minute at the recording place of the playfield. If the participant can't modify within the limited time, they will be disqualified for the trial.

2-2-4. Motor Motor type is limited to the ones included in the kit.

2-2-5. Remote controller Robots are radio-controlled using remote controller, and only the communication module controllers included in the KIT are allowed. (IR controller or ordinary PS2 Bluetooth controllers are not allowed.)

2-2-6. CPU board and interface board Able to use 1 each.

2-2-7. Frame Frame constituting the framework is used without limit within same manufacturer of the kit. However, the frame shouldn't transform its shape.

2-3. Power

2-3-1. Autonomous movable independent power must be used, and combustion engine is not allowed to use.

2-3-2. Charger is allowed to use, and number of battery has no limit.

2-3-3. No limit on number of battery cases, but only the ones included in the certified KIT is allowed.

2-4. Drive No limitation

2-5. Program and control

2-5-1. Both robot moving itself and moving by remote controller are allowed.

2-5-2. If robot moves before referee's declaration of start, the participant(team) will be disqualified.

2-5-3. If problem in communication happens and changing channel is impossible, the participant(team) will be disqualified.

2-6. Spare robot

2-6-1. Robot preparation The participant may have a spare robot other than the main robot, and both robots must be certified by the referee before starting.

2-6-2. Usage of spare robot Changing to the spare robot is allowed when referee certified before starting the competition. (Available timing of the changing robot may differ based on progress, whether held by league or a tournament.)

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2-6-2-1. League Allowed to change before group match starts

2-6-2-2. Tournament Allowed to change before each match

2-7. False start If the shape or size of the robot changes with the one measured, the player may be disqualified due to size regulations. However, changing its size and shape after starting the match is allowed.

3. Competition site

3-1. Official Playfield Playfield approved by International Robot Olympiad committee

3-2. Size and Composition Each team uses one playfield with 160cm x 120cm (error $\pm 10\%$) in size. Two playfields will be placed within 30cm distance.

3-2-1. Allowable range of error in the stadium The slope that is under 2° (error $\pm 10\%$) and a gap or bump under 0.3cm (error $\pm 10\%$) is allowable.

3-2-2. Prevention for falling robot Outer wall will be installed on the playfield to prevent the robot from falling.

3-3. Playfield Covered with a matte coated white sheet paper, and an advertisement or a logo of the host may be inserted.

3-3-1. Starting point of the playfield Each robot must start in their participant's designated camp.

3-3-2. Destination of target Each participant will get a designated area colored with the same color of their designated camp in the middle of the mission map.

3-3-3. Mission map

3-3-3-1. Area for starting and launching 59cm x 53cm (error $\pm 10\%$)

3-3-3-2. Destination for target 25cm x 25cm (error $\pm 10\%$) with the same color with their camp in the middle of the map.

<Mission Map>

3-4. Playfield adjuncts

3-4-1. Acorn

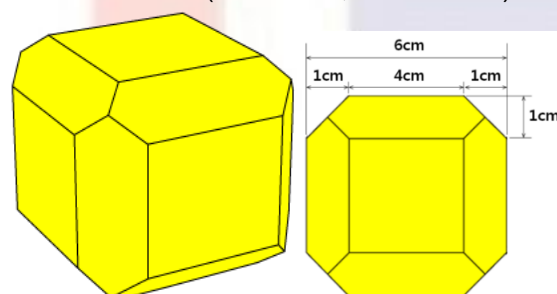
3-4-1-1 hexahedral wood block

3-4-1-2 10g (error $\pm 10\%$)

3-4-1-3. Size

Large cube: 3cm x 3cm x 3cm (W x L x H, error $\pm 10\%$)

EX



< Acorns >

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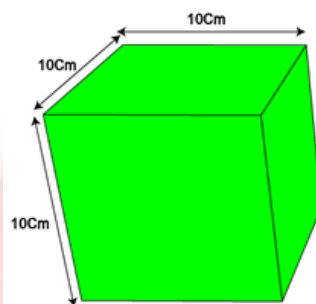
3-4-2. Obstacle

3-4-1-1 Large cube

3-4-1-2 Under 300g (error $\pm 10\%$)

3-4-1-3. Size

Large cube: 10cm x 10cm x 10cm (W x L x H, error $\pm 10\%$)

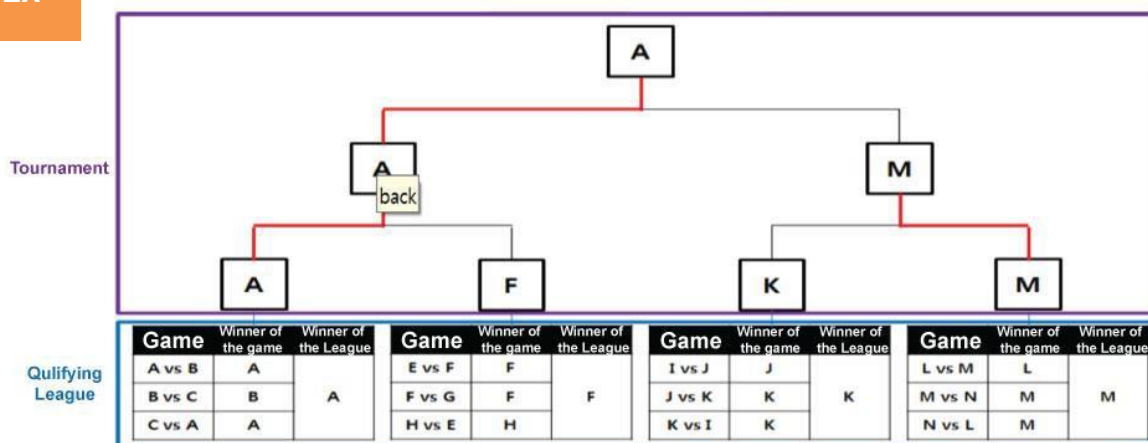


<<Figure 2. Shape and specification of obstacles (example)>

4. Competition progress

4-1. Game process Participant who went through the league will constitute the tournament for main competition.

EX



4-2. League (Qualifying game)

4-2-1. Constituting group All participant must constitute a group of three for league by lottery.

4-2-2. Points and advance to tournament Earn 3 points when winning, 1 point when tied, 0 point when lost, and a team with the highest point gets a chance to advance to tournament.

4-3. Tournament (Main game)

4-3-1. Counterpart of the game will be decided by lottery when choosing team for league.
(ex. Team A 1st place vs Team C 1st place, Team B 1st place vs Team D 1st place)

4-3-2. Tie doesn't exist, and comparison between weight and extra play will be held till winner gets decided.

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4-4. Robot modification All teams may get same amount of time for modification after game finishes on referee's decision.

5. Competition progress

5-1. Performing the mission Place the target to their own place as much as possible.

5-2. Points Numbers of missions held will be added when counting points.

5-2-1. Counting points Total points will be counted by adding points per mission.

- a) Moving 1 Acorn cube worth 1 points.
- b) Moving 1 obstacle worth 3 points.

5-2-2. Deductible points If acorns and obstacles are off the field, they will be deducted by the points allocated.

- a) 1 acorn = -1 point
- b) 1 obstacle = -3 points

5-3. Choosing Side

5-3-1. Team league All participants gets to play two competitions at different camp.

5-3-2. Tournament A participant who wins games such as rock scissor paper, lottery or throwing a coin gets to choose competing way.

5-4. Moving or launching cube

5-4-1. Participant can move more than one cube at once.

5-4-2. Cube that went out the playfield while moving cannot be reset during the trial, and will be excepted when adding the score.

5-4-3. Only obstacles or acorns that are not designated to be thrown out of the stadium from the mission site will be deducted if they leave the stadium.

5-5. Start and restart

5-5-1. Start Participant must start by sign of referee, and if robot moves before the sign, the team will be disqualified.

5-5-2. Restart Chance to restart will be given twice, and if the participant doesn't follow referee's sign when restarting, the participant will be disqualified.

5-6. Time limit Game will be held 1minute 30seconds in maximum.

5-7. Release of the game

The missions to be performed, such as the location of the obstacles and the number of acorns to be moved, will be presented differently for each competition in consideration of the concept and difficulty of the competition, and will be released at the stadium on the day in the form of a mission paper.

5-8. Judging competition

5-8-1. Called Game If there are no cubes left in their area before the time limit, the game will end and the scores at the end of the game will be compared with each other to determine the outcome.

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5-8-2. Time end Mission point will be recorded in a limited time, and the participant with higher score wins.

5-8-3. Robot stop If the robot stops or move repetitively within a particular place, referee must give 10 counts. If the robot doesn't move ordinarily in 10 counts, referee may declare robot stop, and the robot will be excluded from the game. The counterpart may proceed the game.

5-9. Game stop due to disqualification Participants can be disqualified when violating regulation or disturbing the progress, the game ends due to disqualification, and the record doesn't get accepted.

5-9-1. Robot Touch If participant touches the robot without judge or supervisor's authorization, robot touch will be declared and will be disqualified for the trial. It also applies when the body of the participant touches the robot that went out of the playfield.

5-9-2. Repair during the match Adding, removing, exchanging or modifying component of the robot during the competition is not allowed, and if holding extra components, tools, or batteries while waiting for modifying robot, the trial will be disqualified.

5-10. Rematch If unexpected situation, such as blackout or breakdown of measuring instrument, occurs during the match, referee can decide to go on a rematch.

5-11. Robot plunge If robot falls out from the playfield (if part of a robot touches floor outside the playfield), the robot must go back to the starting point then count 10 with judge's permission. The robot may go through the round again after 10 counts.

5-12. Referee has authorization to control all situations and participants at all times during the competition. Judgement of the competition is referee's own authorization and referee has the authorization for final judgement.

6. Evaluation

6-1. Tiebreakers

6-1-1. League Finalists are decided by comparing difference between earned and lost points. If the difference between points are same, the tied players are considered by followings.

6-1-1-1. If difference between points are same, robot with lighter weight wins.

6-1-1-2. If both robots' weight is same, rematch will be held.

6-1-1-3. If rematch ties, the robot has to be modified to lessen their weight, then go on a rematch. 1 minute will be given for modifying, and they must modify at recording place at the same time.

6-1-2. Tournament

6-1-2-1. Robot with lighter weight wins.

6-1-2-2. If both robots' weight is same, rematch will be held.

6-1-2-3. If rematch ties, the robot has to be modified to lessen their weight, then go on a rematch. 1 minute will be given for modifying, and they must modify at recording place at the same time.



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