



[SUPPLEMENTARY RULES]

Construction Requirements: There is no restriction on the materials used, but **ready-made device is not** allowed. The device should consist of two parts: the “control unit” and “device”.

Functions: The “control unit” is used to control a wireless “device” to complete the task.

Dimensions: There is no restriction on the weight of the “device”. The size of the “device” should not exceed **30cm x 30cm x 40cm (Height)** and there is no restriction to the “control unit”.

Power Supply Restriction: The device must use DC of **24V** or below.

Competition Structure:

The game will be divided into Junior Secondary Group and Senior Secondary Group. The schedule of competition is divided into: Group Stages, Semi-finals and Finals.

1. **Group Stages:** All participating teams will be divided into 8 groups based on the results of a drawing. In each group match, the two teams obtaining the highest scores above 180 points will advance to the Semi-finals. If there is insufficient 2 teams in anyone groups be advanced, the vacancies will be filled by all other teams of groups whose scores above 180 points and in order of the highest score.
2. **Semi-finals:** The 16 advancing teams will be divided into 8 groups by drawing; 2 teams in each group will compete in a knockout round in a best-of-three games system of “Tic-tac-toe”, until the 2 top teams are selected to advance to the Finals. The 2 teams that failed to advance but made the top 4 will compete in a match to determine the 3rd place.
3. **Finals:** The top 2 teams will compete in a best-of-three game system of “Tic-tac-toe”, the winner being the champion.

Pitch:

Target plate at Group stages: An upright target plate is at ~140cm x 120cm, with several large, medium and small hollowed out circle targets throughout the plate (Figure 1). The diameter of the large circle is ~30cm, the medium circle is ~20cm and the small circle is ~10cm. At each turn, a successful throw into a large circle will be scored 10 points, 20 points for a medium circle and 40 points for a small circle. The “device” must be placed at the designated distance of 150cm away from the target plate.

Semi-finals & Finals: An upright target plate is at ~140cm x 120cm, with 9 circle targets with a diameter of ~20cm, neatly arranged in a 3 x 3 pattern on the target plate (Figure 2). The “device” must be placed at a distance of 150cm away from the target plate.

Competition Method:

Group Stages

Within a time limit of 5 minutes, the team can use the wireless control to operate the “device” to throw a certain number of projectiles into the target plate. The projectiles can be put into the “device” manually or automatically. Each projectile thrown successfully into the target will score corresponding amount of points. The score for throwing a table tennis ball will be multiplied by 1, a soft plastic ball is by 1.5 and a sandbag by 2. The final score is the total of awarded points.



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Junior Secondary Group: The “device” must be placed at a distance of 150cm away from the target Plate. The projectiles will include 16 table tennis balls, 2 soft plastic balls and 2 sandbags.

Senior Secondary Group: The “device” must be placed in order of the designated areas (Area A, B & C) for throwing (Figure 3). Although the “device” can stay in each area for any time, the total game time is 5 minutes only, and scores will be calculated immediately after the game is over. Each area will be allocated 8 table tennis balls, 1 soft plastic ball and 1 sandbag, but the projectiles in each area are only allowed to be used at the certain area.

Semi-finals & Finals:

The projectiles can be put into the “device” by manually or automatically, and the team can use wireless control to operate the “device” and to take turns throwing projectiles to the 3 x 3 Tic-tac-toe target. When a projectile is thrown into the target, it means that it has occupied a certain grid on the Tic-tac-toe frame, and the first team that occupies the 3 horizontal, vertical or diagonal grids to compete a line will win the competition. Each team will have 8 projectiles divided into three grades: Large (2 pieces), medium (3 pieces) and small (3 pieces). Only projectiles of a higher grade can replace and override projectiles of a lower grade.

During the match, each team is only allowed to throw out one projectile at a time. The order of throw in the first and third rounds of the best-of-three games are determined by rolling dice. In the second round, the team behind the first round will throw first. Each team takes turns to throw one projectile. Even if the projectile does not reach the target, the turn is finished.

When your team’s throwing round is finished, it must immediately remove the “device” from the area so the other team can place their “device”, and so on. Each team have a total time limit of 3 minutes for each round. Whenever it is a team’s time to throw, the timer will start counting down and then, pause after a projectile is thrown.

Types of Projectiles:

Grade of projectiles	Type	Dimension	Weight	Reference
Small	Colour table tennis ball	Diameter ~4cm	~2g	Figure 4
Medium	Soft plastic ball	Diameter ~6cm	~12g	Figure 5
Large	Sandbag	~4cm x 4cm x 4cm	~80-100g	Figure 6

Timeout and Maintenance:

Group Stages

There is no timeout in the Group Stages. Maintenance can be requested within the 5-minute game time, but the team should notify and obtain the referee’s permission before taking out the “device” to repair and the timer will not be paused. After the maintenance, the “device” must be placed back on its original position prior to the maintenance to continue the game.

Semi-finals & Finals:

During each match, each team can have an only chance to request of timeout and the time limit is 3 minutes. When one team requests timeout, both teams will pause the competition and also the timer at the same time. If a participating team needs to repair their “device”, it can be done



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during the timeout, the opposing or own team's throwing round. If maintenance is requested during one's own throwing round, the team should notify and obtain the referee's permission before taking out the "device" to repair and the timer will not be paused. After the maintenance, the "device" must be placed back on its original position prior to the maintenance to continue the game.

Fixed-point Throwing Contest

This contest will be adopted to determine the qualifying team if the match results of both teams tied and/or sharing the equal scores. Both teams will be provided with a certain number of projectiles within a time limit, and the "device" is still only allowed to throw one projectile at a time. The total score is finally counted, and the team with the highest score will win.

Violation of Rules:

Teams will be disqualified depending on the severity of violations, as regulated below-

1. Intentionally causing damage to the pitch or objects during the competition;
2. Touching the "device" during the competition without pre-approval;
3. Using "device" that violates specification as determined by the supplementary rules;
4. Deliberately obstructing other teams or their "devices" from competing;
5. Using "device" that have not been inspected by the organizer;
6. Using an unqualified battery that has not been inspected by the organizer;
7. Team members entering the restricted pitch area during competition without permission;
8. Disobeying the instruction of the staff, interfering or stalling the competition;
9. Violations, insulting or directing abusive words to other participating teams;
10. Violation of the principles of fair play.

Others:

1. All teams should pay attention to electrical safety, the organizer shall not provide power supply;
2. Maintenance tools are the sole responsibility of the participating teams, the organizer shall not provide them;
3. Participants are allowed to use the test pitch at the museum during opening hours prior to the competition;
4. Should any dispute arise, the decisions of the organizer shall be final;
5. Final decisions shall be made by organizer should any unexpected situations happen during the competition;
6. In case of any discrepancy in the different language versions of the regulation, the Chinese version shall prevail.



Pitch

<p><u>Figure 1: Target plate of Group Stages</u></p> <p>There are four circular targets ~10cm, ~20cm and ~30cm in diameter on the target plate, distributed in different locations. The actual position of the circular targets is subject to the on-site target plate</p>	
<p><u>Figure 2: Target Plate of Semi-finals & Finals</u></p> <p>There are a total of 9 circular targets ~20cm in diameter, neatly arranged in a 3 x 3 pattern on the target plate. The actual position of the circular targets is subject to the on-site target disk.</p>	
<p><u>Figure 3: Schematic Diagram for the Competition Pitch</u></p> <p>The dimensions and distances for Group Stages, Semi-finals & Finals are the same.</p>	

Type of Projectiles

<p>Figure 4: Colour table tennis ball, Grade: small.</p>	<p>Figure 5: Soft plastic balls, grade: medium.</p>	<p>Figure 6: Sandbags, grade: Large.</p>