



Mini Golf Challenge

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Disclaimer

It is your responsibility to read and understand this document on a regular basis because we may update it from time to time.

Mini Golf Challenge

The Mini Golf Challenge is a new event that will test which team can get the ball into the hole using the least time and least number of strokes. This challenge will be remote controlled and require all team members to control the robot through different parts of the course. A test of participants driving, chipping, and putting skills. Time and number of strokes will be judged.



Challenge Rules

1. All robots must be built and programmed to the specifications outlined in our [Lego Competition Rules](#). Unless exceptions are listed in the rules below, any robots not adhering to these specifications will be disqualified for the match and can rejoin once the robot meets the specified requirements.
2. Your competition day rank will be worth 70% of your final score. Judges will also [interview](#) your team (30% of the final score).
3. Your **robot's dimensions** when starting and while passing through the tunnel must be 10" or less in length and width and less than 7.8" in height (25.4 cm long x 25.4 cm wide x 20 cm high). Your robot may change dimensions to something larger than the above specifications as it goes through the golf course for the purposes of swinging the ball, provided that it does **not** violate rule 12.
4. The robot will be remote controlled either using any remote wireless device (e.g. mobile device, Mindstorms controller, another EV3 brick, etc.).
5. To encourage teamwork and fairness, different team members must control the robot through different parts of the course. Every time the ground colour changes, the team must change the person who is controlling the robot to someone who has controlled the robot the least number of times. If you fail to switch at the beginning of reaching a new ground colour, your team will gain a stroke and your robot must restart where they failed to switch.
6. At the start of the round, the team may place ball anywhere within the tee-box and place the robot near the starting area. The time will start when the ball is first contacted by the robot.
7. A stroke is defined as a motion of the robot to move the ball and successfully making contact with the ball (i.e. if the robot swings and misses the ball it does not count as a stroke). If a ball bounces off of an obstacle and hits the **still** robot it will not be counted as a stroke. If the robot is moving and hits the ball, then it will count as a stroke. The robots must not lift or carry the ball. Moving the ball must be a striking or pushing movement. Furthermore, no outside agency other than the wind can blow the ball around the course or into the hole.

8. When a robot is pushing the ball, it must not be enclosed within any structure. The ball must be able to freely move and roll when being pushed. For instance, nothing can clamp or hold the ball tightly while pushing.
9. Robots may push the ball but for every second they are in contact with the ball it will be counted as a stroke. If the time in contact while pushing is less than a second, it will still be counted as a second.
10. A ball that is hit out of bounds (over the sides of the table) must be placed back to where it was originally hit and it will still count as a stroke.
11. Teams are encouraged to play the ball wherever it lands but, if at the discretion of the judge, a ball becomes stuck in an unpredicted fashion, then the judge will place the ball back on the course from where it was hit.
12. If your robot breaks the windmill, tunnel, or Lego wall, your team will be disqualified from the current round. Otherwise, should any other parts be damaged or fall apart by robot, it will be left as is for the remainder of the round. The course will be repaired between rounds.
13. Time will stop when the ball stops in the specified hole at the end of the course. However, no team shall take longer than 5 minutes to putt their ball into the hole. Should teams not sink the ball into the hole within the 5-minute limit, they will receive 'DNF' as their score.
14. The ball cannot be hit over the center wall. The ball will be placed back where it was originally hit – and a stroke will be counted.
15. The number of rounds is subject to change based on the number of participating teams and the time allotted on competition day.
16. Prizes may be awarded based on best scored performance relative to other teams and or if participation rates are low in the challenge, 1st, 2nd and 3rd prizes may not be awarded based on the judges' discretion and performance of the teams involved.

Judging and Scoring

Each team will get at least two rounds on the course. Each round, teams will be scored in three categories: sinking the ball, number of strokes, and time.

- **Sinking the Ball**

- Teams that sink the ball will achieve a higher score
- Teams that do not sink the ball will get a "DNF" score.

- **Number of Strokes**

- Just like real golf, teams will be primarily scored based on their number of strokes needed to finish the hole.
- Teams should aim for the lowest number of strokes possible to complete the course. The teams will be ranked based on this result, if they sunk the ball into the hole.
- If a tie exists between two teams, then the time they took to complete the course will be considered.
- The judges are there to count strokes and any decision they make is final.

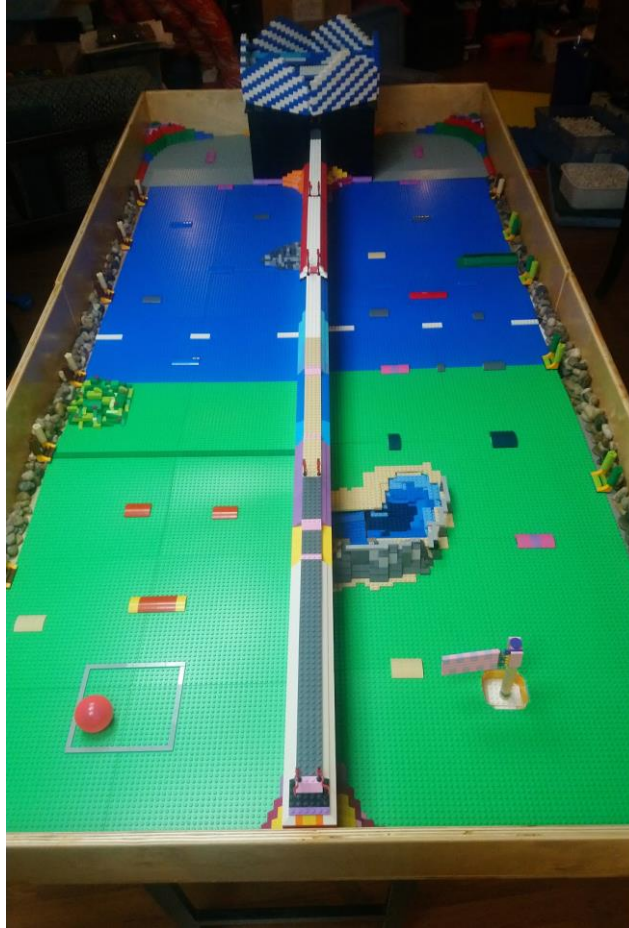
- **Time**

- The timer will start when the ball is first contacted by the robot and end when the ball settles in the hole.
- Time will be used as a tiebreaker in order to differentiate between scores that are the same.
- This includes any time it takes for recovering the ball if it is hit out of bounds, penalty strokes, etc.
- The timer will only be paused if, at the discretion of the judges, there has been outside interference from spectators

At the end of each round, we will rank teams based on the rules above and award points accordingly. At the end of all rounds, we will determine the winner of the challenge using the **combined** score for each team and the team's interview score.

Mini Golf Course Diagram

The golf course is constructed on a 4-foot by 8-foot plywood sheet that is split down the centre by a 6 foot long Lego wall. Each blue/green square on the golf course is 10" by 10"; meanwhile, the grey squares are 15" by 15". The course will remain the same for all practices and competition. There are various obstacles including rocks, greenery, hills and a river that returns the ball to close to the starting point. The "golf ball" for this challenge can be purchased at your local dollar store in a 20-pack for about \$3.



Additional photos of the golf course can be found on [Instagram](#), [Twitter](#), and [Facebook](#).