

a-MAZE-ing Challenge Official Rules (RoboRAVE Kaga Japan 2018)

●**Goal:** To design, build, and program a robot that can follow a raised wooden maze without falling off. The faster you can complete the maze increase your overall score.

●**Who Can Play:**

Teams of 2 to 4 players in separate divisions for:

- Elementary School
- Middle School

●**Required Materials:**

• Autonomous robot (any platform, costing \$ 1,500 USD or less, and meets the following design constraints, which will be verified during check-in:

- **Volume of the robot must NOT exceed 65,030 cubic cm.** Click [HERE](#) for video.

○ Robot is not allowed to use any sensors to assist it in following the maze, wheel encoders are allowed.

●**Challenge Track Specifications:**

• The a-MAZE-ing tracks will all be identical and are constructed of concrete panels (plywood) that is approximately 0.94 inches (2.4 cm) tall and 9.25 inches (23.5 cm) wide (approximately a standard US 2' x 10' board).

- There are always 5 angles included in each maze, and 6 straight-ways.
- The angles can be any mix of 45, 90, and 135 degree angles and can turn in either direction.

○ While all three divisions will utilize the same track, each division has different finish line.

- Elementary School – Finish line will be halfway between the 3rd track and 4th angled turn.
- Middle School – Finish line will be when robot touches the post at the end of the maze.

●**General Rules of Play during a-MAZE-ing Challenge:**

1. The robot has **2 minutes** to complete the maze, the clock runs backwards from 120 seconds.
2. Teams can attempt as many runs as needed to post their best scores.
3. There is no Tournament for the a-MAZE-ing challenge.

● **Scoring:**

- There is NO Before Event Points.
- Each completed straight-away is worth 50 points each completed angle is worth 100 points.
- If the robot falls off the maze before reaching the finish line the run is concluded, the score includes any portion of the maze that is completed in it's entirety, and no bonus points are awarded.
- Bonus points are only awarded if the robot reaches the finish line before the 120 second is used up. Any remaining time is then added to the score as a bonus.
- The top 5 scores that a team posts will be utilized to determine the divisions winners of the a-MAZE-ing challenge.

● **Scoring Matrix:**

	1st straight complete	1st turn complete	2nd straight complete	2nd turn complete	3rd straight complete	3rd turn complete	4th straight complete	4th turn complete	5th straight complete	5th turn complete	6th straight complete	Total
ES	50	100	50	100	50	100	50	NA	NA	NA	NA	500
MS	50	100	50	100	50	100	50	100	50	100	50	800

Bonus: Finished required distance under 120 seconds? Remaining seconds (integral part only) are added to score.