

Robot Football!

Objective: Code your robot to move across the football field and score a touchdown while avoiding obstacles and earning bonus points.

Scoring System:

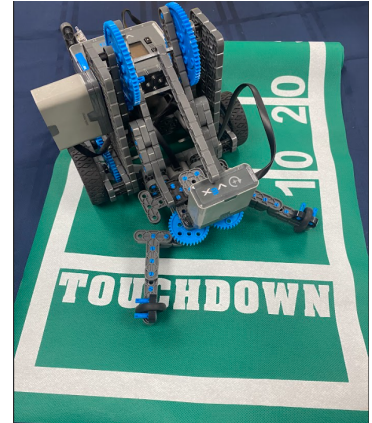
- Successful completion of tasks earns points per card.
- Bonus points for creativity, accuracy, and efficiency.
- Penalties for mistakes or rule violations.
- The team with the highest score at the end of the game wins!

Field Setup Tips:

1. Use tape or paint to mark a field on the floor. (Or buy a runner at the Dollar Tree like in the picture above)
2. Place objects at designated distances.
3. Ensure each zone is clearly labeled for easy navigation.

Materials Needed:

- Robots with coding capabilities (e.g., VEX IQ).
- Cones, balls, targets, and blockers.
- Stopwatch or timer for time-based challenges.
- Scorecards for tracking points.
- Task cards (next page).



Game Card: Start Zone

- **Task:** Begin coding your robot from the starting zone. Write a program that moves your robot 5 feet forward.
- **Bonus:** Include a spin maneuver before moving forward (+10 points).
- **Penalty:** If the robot veers off course, return to the start zone and debug (-5 points).

Game Card: Obstacle Course

- **Task:** Navigate around a set of cones placed 3 feet apart without touching them.
- **Bonus:** Program your robot to perform a zig-zag pattern as it moves through the cones (+15 points).
- **Penalty:** Each cone touched deducts 2 points.

Game Card: Passing Zone

- **Task:** Program your robot to push or launch a small ball to a specific target 2 feet away.
- **Bonus:** Hit the center of the target on the first try (+20 points).
- **Penalty:** Missed attempts cost 1 point each.

Game Card: Defensive Line

- **Task:** Code your robot to reverse and move laterally to avoid a stationary blocker.
- **Bonus:** Avoid the blocker and move to the next zone without any collisions (+10 points).
- **Penalty:** Colliding with the blocker resets your robot to the start of this zone (-10 points).

Game Card: Speed Zone

- **Task:** Program your robot to complete a 10-foot straight run as quickly as possible.
 - **Bonus:** Finish within 15 seconds (+10 points).
 - **Penalty:** Each additional second over the time limit deducts 1 point.
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Game Card: Touchdown Zone

- **Task:** Code your robot to cross the end zone and stop precisely on the touchdown marker.
 - **Bonus:** Celebrate with a programmed dance or LED sequence (+20 points).
 - **Penalty:** Overshooting or stopping short deducts 5 points.
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Game Card: Bonus Play

- **Task:** Perform a unique, creative action (e.g., spinning, lights, sound effects) during any zone.
 - **Bonus:** Creativity impresses the judges! (+10-30 points).
 - **Penalty:** None; go wild and have fun!
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Robot Football Field Game Cards

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Game Card: Interception Zone

- **Task:** Program your robot to intercept and move a rolling ball to a designated area.
 - **Bonus:** Successfully intercept and move the ball within 20 seconds (+15 points).
 - **Penalty:** Failure to intercept within the time limit deducts 5 points.
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Game Card: Field Goal Challenge

- **Task:** Program your robot to kick or push a ball through a goalpost 3 feet away.
 - **Bonus:** Score on the first attempt (+20 points).
 - **Penalty:** Each missed attempt deducts 2 points.
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Game Card: Overtime Zone

- **Task:** Code your robot to complete a sequence of moves (e.g., forward, turn, reverse) within a 30-second time limit.
 - **Bonus:** Complete the sequence flawlessly on the first attempt (+25 points).
 - **Penalty:** Exceeding the time limit deducts 5 points.
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Game Card: Trick Play Zone

- **Task:** Create a complex maneuver, such as moving in a figure-eight pattern or spinning while advancing.
 - **Bonus:** Successfully execute the trick (+20 points).
 - **Penalty:** Failure to complete the maneuver deducts 10 points.
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Scoring Card Template

Team Name: _____

Robot Name: _____

Zone Name	Task Completed? (Yes/No)	Bonus Points Earned	Penalty Points Deducted	Total Points
Start Zone				
Obstacle Course				
Passing Zone				
Defensive Line				
Speed Zone				
Touchdown Zone				
Bonus Play				
Interception Zone				
Field Goal Challenge				
Overtime Zone				
Trick Play Zone				

Total Score: _____