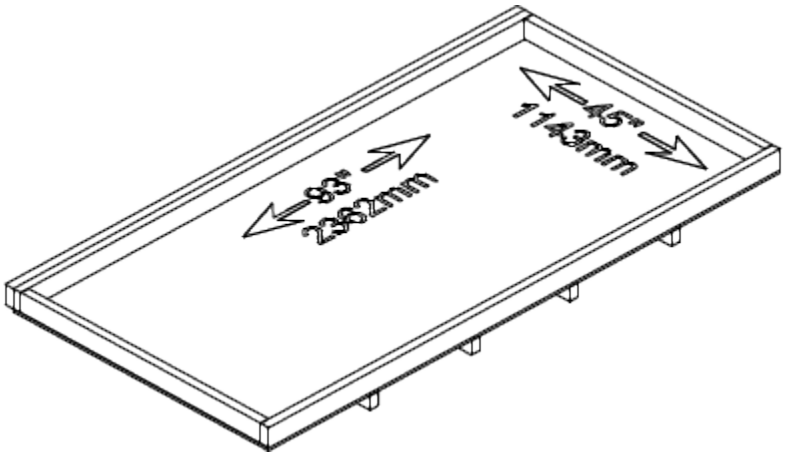
Trash Wars

Overview

Robots must compete to clear all the "trash" (red and blue NXT balls) from their side of the field. The robot with the fewest balls on its side after time expires is the winner.

Playing Field



The competition will take place on a standard-size FIRST LEGO League table, a 4 feet by 8 feet smooth white surface surrounded by two-by-four walls painted flat black. (The actual playable area is 93 inches by 45 inches.)

The table will be modified by adding a 1 foot high, ½ inch thick wall to the center of the lengthwise axis, dividing the table into two 4 feet by 4 feet square sections. The wall will be painted flat red on one side and flat green on the other side. (A robot must be able to start the match on either the red side or the green side, depending on tournament seeding.)

Each side of the table will be populated by a number of red and blue NXT balls (each 6.5 studs in diameter). The number of balls will not be disclosed in advance, but both sides will contain the same number of balls.

Competition

Trash Wars will be played in either a round-robin style tournament, where each robot competes against every other robot with the winner determined by the highest cumulative score; or a double-elimination style tournament, where a robot climbs the tournament bracket until it loses twice. The round-robin is the preferred style, but if there are a large number of entries, the judge may elect to run a double-elimination event due to time constraints.

Each match consists of a maximum of three rounds in a best-of-three format. In round-robin style tournaments, robots will receive two points for a win, one point for a draw, and zero

points for a loss.

Robots will begin the contest against the far edge of the table on one side of the playing surface. The tournament judge will signal the contestants to activate their robots. Robots may begin moving immediately; after activation, no further human interaction with the robot is permitted. Robots will have 90 seconds to clear their side of the field **and must stop automatically after 90 seconds**.

Robots may transfer balls to their opponent's side of the field by lifting, throwing, bouncing, flipping, or any other method achievable with LEGO parts. If a ball escapes the boundaries of the playing field, it will be placed back on the side where it last made contact. For instance, if Robot A throws a ball onto Robot B's side of the field and it bounces one or more times before bouncing off the table, it will be placed on Robot B's side. If Robot A throws a ball off the field entirely, it will be placed on Robot A's side.

Robot Design

Robots must fit entirely within a square measuring 18 inches by 18 inches at the beginning of a round. There is no height or weight restriction.

Robots must be constructed of 100% LEGO-brand parts, with special exceptions allowed for string, rubber bands, batteries, and third-party sensors. No modification (melting, glue, deformation, etc.) of the bricks is permitted. Contestants may use any type of intelligent brick (RCX, NXT, EV3, Cybermaster, Scout, etc.) and any number of sensors and motors.