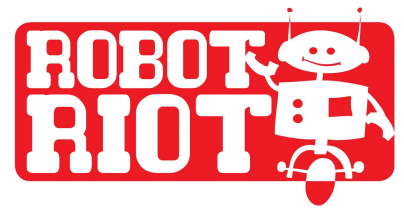


## Description & Rules of the SUMO-Bot Competition



The competition will involve two limited sized autonomous contesting Sumo robots which will compete within a circular arena. The purpose of the competition will be for one robot to eliminate the other by means of pushing it out of the arena or incapacitating it by tipping, disabling or overturning it within the bout time limit. The winner of the bout will be either the robot left functioning in the arena or the last robot out of the arena in the event that the winning robot falls out of the arena after it has pushed its opponent out. If both robots are still moving under their own power or are entangled with no clear winner after the time limit, then the bout will be declared a draw. (If the robots are entangled and wear and tear is occurring and both contestants agree to a draw, the bout may be ended early.) A winning robot will receive 2 points, a losing robot will receive 0 points. A draw will assign 1 point to each robot. After each contesting robot has had a chance to battle with every other, the points will be tallied and the robot with the highest score will be declared the winner. If there is a draw, the most appealing design, as determined by a popular vote will be declared the winner.

### Arena

The arena will consist of a flat, smooth, 48-inch, circular plywood disk painted with semi gloss white paint. A 3-inch, painted black border will be used to assist the Sumo robots in determining their proximity to the edge of the arena. The arena surface will be raised slightly from the supporting surface so it is obvious when a contestant has been pushed from the arena.

### Timing

Bouts will last up to a maximum of 3 minutes, if no clear winner is established before this time. When a bout is started, each Sumo robot program will be started by a button push and must wait for a minimum of 5 seconds before moving. A robot must start moving forward, i.e. away from the center of the arena, within 10 seconds of the start of the bout.

### Starting Positions

The Sumo robots will start back to back either side of the center of the arena. The robots will be placed with their rear most structure spaced 3-inches from the center of the arena. Where a robot may be of a design with no clear front and back, the front will be the direction it will first move in when it starts. Each robot must have started moving forward, i.e. away from the center of the arena, after 5 seconds and within 10 seconds of the start of the bout. This movement must be made in a straight line for a distance of at least 3 inches.

## **Mechanical Rules**

Sumo robots must conform to a maximum size specification. The outline of the robot must be such that it fits inside a 10 inch on a side cube. A robot is permitted to modify its geometry after the bout has started. This modification may start immediately after the bout has started and is not required to wait for the 5 second movement start delay. There are no other weight or dimension limits.

## **Weapons Rules**

Sumo robots may not use deliberately destructive weapons of any kind. It may employ wedges, scoops or hoists to unbalance or tip over opponent robots. Structural pieces which may become detached during the bout will be allowed as long as there was no obvious attempt to shed them.

## **Construction Rules**

Sumo robots must be constructed of 100% unmodified LEGO brand parts. No adhesives or melting may be used in the construction of the robots. The robots shall be designed to remain as a single entity throughout the duration of a bout. A robot may not release fluid. Robots may not include offensive weapons or mechanical systems designed to dismantle the opponent. Contesting robots are to be designed to primarily push, lift, rotate, tip, impede or overturn the opponent.

**Have fun, SUMOBot fanatics!**