

A Robot SUMO Arena?



This rather “tired” arena has had two terms of use across three schools - but still seems to work OK!

Official SUMO uses a circular arena. Yes, circular is fairer for official competitions. However, I use a rectangular arena for classroom use, because this adds a small element of unpredictability. The best student Robot will win *most* of the time, but not *all* of the time. 😊 In my experience, occasional wins by “lesser” robots over “better” robots encourages student robot builders mightily! 😊

Construction: I used a straw board sprayed with matt black paint rimmed with silver plumber’s tape. This gave me high light sensor calibration readings in the silver area & low readings in the black area.



If you decide to make an arena, also get a mask (see illustration above) from the chemist’s or similar shop to use when you spray-paint the

strawboard, so that you do not breath in spray paint particles, (these particles can't be good for your lungs).

Other options? An arena about 3 feet by 3 feet (approximately a metre by a metre) or smaller will fit in a car for easy transportation. This size proved difficult to find in a form that was a reasonable price (that is, as dirt cheap as possible!) The strawboard was a the best substitute I could find, 1050 mm by 800 mm (3 feet 5 inches by 2 feet 7 inches). *A hint-* don't use a gloss paint on this board – I tried a gloss red and it was absorbed very patchily - the board looked as if it had measles – ugh!

Regarding a substitute for the strawboard, if you have a tip shop near you, then it is worth a look as these recycling centers at the local refuse dump as they can be a rich source of really cheap material. Other centers that recycle building material could also be worth checking. If these do not prove successful, your next bet could be a building material supplier.

At a building material supplier an option is Masonite sold as a blackboard. This has a nice matt black surface, but I could not find any pieces available near the 3 feet by 3 feet size – you may have more luck.

If you have facilities for chopping up large sheets of building material (I haven't) you could look at material like an MDF white backing sheet 2400 mm by 1200 mm (6 feet 10 inches by 3 feet 11 inches). This could be used for two arenas. In this case you would use black cloth tape or electricians' tape (try a hardware store) to edge the SUMO arena. An ordinary 3mm MDF board of the same size is about 2/3 the cost of the white-surfaced MDF board, but you would have to factor in the price of the paint to get a matt black or white surface for your SUMO arena.

Some schools have successfully used black electrician's tape around the edge of the largest sheet of cardboard from the local Office or Art supplier. A smaller sheet than 3 feet by 3 feet (1 metre by 1 metre) works well – there is just less suspense as the robot have near-misses (causing student gasps) before they finally collide! 😊

Which way to go? - Up to you...

Of course, you could also try downloading [our pdf SUMO Arena](#) that can be useful if a shop near you has an A1 printer.

Good luck with your fossicking!