

Robot Sprint Project – Rules & Kits

(Instructions to teachers and supervisors)

Rules

- Robots must be propelled in a manner to simulate walking.
- If the “legs” revolve then a maximum of only 2 feet per end of a revolving shaft shall be allowed, each in contact with the ground for less than 30 degrees of rotation. (Any more than this and the revolving component shall be considered to be a wheel.)
- Wheels may be used for stabilization purposes only, up to a maximum number of two. They must not be driven.
- Additional materials will be made available upon request with the following exceptions:-
No Extra Wheels, Motors or Batteries
(A fresh set of batteries will be issued for the competition)

Kits

Core Kits

Motor with worm and wheel gearbox	(MUTR Code: TG1 010)	1 off
AA size 1.5v cells	(CUED Code: MAB0002)	3 off
Battery Box & switch	(MUTR Code: EC1 061)	1 off
Polythene Cams	(MUTR Code: TG1 017)	2 sets (8 pcs)
Polythene Gears	(MUTR Code: TG1 002)	2 sets (8 pcs)
Polythene Wheels	(MUTR Code: CW3 028)	2 only
Steel Axle 3mm dia. x 300mm long	(MUTR Code: CW3 015)	3 off
Aluminium Axle 3.2mm dia. X 300 long	(MUTR Code: CW3 018)	3 off
Top-Hat axle bushes	(MUTR Code: CW4 001)	2 sprues
Corriflute sheet	(MUTR Code: CS6 001K)	300mm square
Corriflute joiners	(MUTR Code: CS7 001)	1 set
M4 screws 16 long	(CUED Code: MCAB0064)	4 off
M4 screws 25 long	(CUED Code: MCAB0066)	4 off
M4 nuts	(CUED Code: MCA0062)	8 off
M4 washers	(CUED Code: MCAP0028)	8 off
Insulating Tape	(CUED Code: MBMA0001)	1 reel

Miscellaneous Bits & Pieces

Aluminium sheet 20swg x 100 x 150	(CUED Code: MJMK0012)	1 off
Plywood sheet 3.5 thick x 100 x 150	(see carpenters)	1 off
“Soft-Link” tubing (+ copy of instructions)	(MUTR Code: TT3 014)	150mm
Lolly sticks	(MUTR Code: CS5 001)	4 off
Steel welding rods 3/32” dia.	(CUED Code: MFD0008)	if requested
Expanded Polystyrene sheet or block (for packing etc.)		as available

Tools

Individual Kits

Safety Glasses (1pr per person)
Pen & Pencil
Steel Rule (300mm)
Scriber
Centre Punch
Hammer
Square
Scissors
Stanley Knife
Cutting Board (600mm square hardboard)
De-burring tool
Spanner 7mm A/F (M4)
Screwdriver
Emery or Wet-or-Dry
Pliers (if sufficient available)
(The above to be arranged in sets around a bench vice)

Shared Resources

Files
Hacksaws (full sized and Junior)
Snips
(The above to be hung on the silhouette board together with any of the previous list which have insufficient numbers to be distributed)

Hot Glue Guns to be placed on separate workbench, which has previously been covered in brown paper for protection. (Note that glue sticks are available from MUTR, Code: CA1 0021)

Machine Tools (to be used under supervision only)

Pillar Drills – together with drill bits 3.0mm & 4.0mm dia, chuck keys, machine vices and clamps.
Guillotine – use of pre-set stop
Bending Machine
Notch Cutters

Stephen Tebboth (19/5/04)