# *Dorking Heritage*     **The Loo - Roll Racer Game**

This game is for up to six people and made from scratch using recycled materials.

It recognises the Rob Walker racing team based in Dorking and celebrated by a town event two years ago. A book about Rob Walker and his racing history is available from Dorking Museum.

The track is made of paper pieces laid out on the floor to form a course. In the pictures 22 pieces are shown but this can be increased if a larger track is desired.The track can be open for a single lap or a closed loop so that multiple laps are possible. The games played depend on the imagination, interest and stamina of the players and the need to use the playing space for other activities. The rules are flexible but must be decided by the players before the start. The winner is the car that completes a single lap of the course and crosses the FINISH line first or, the winner of the first 5 or 10 laps, whatever is agreed. Decoration is arbitrary. It could include a decorated shoebox grandstand with spectators painted on the sides and flags that represent a Grand Prix in the country of choice.



**Parts:**

The minimum parts needed for a game are for a solo player. These are based on a track of up to 40 pieces of track (including the PITs and STARTING grid and FINISH pieces) and one car.  This player will play against the clock and a digital stopwatch or bedside alarm is used for timing.

Competitive games for 2 to 6 players can be made, in which case up to six cars are constructed. The layout of tracks and the design of cars are made used materials. These pictures suggest possibilities.

The designs above do not represent the cars built by the Rob Walker team.

All the parts are capable of being made  a six year old with some help and supervision and should be fun for this age and above and maybe for adults. Decoration, colour and the design of the drivers is decided by the players. LEGO (TM) , cloth, wool, card or paper can all be used. Hopefully these tasks will provoke imagination and enhance skills
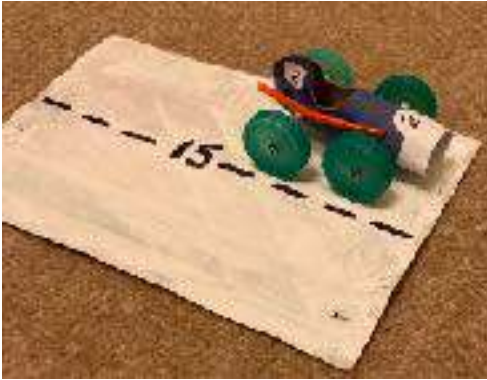
## Making the track:

Either using scrap A4 printing paper or, as in these pictures, an old newspaper cut into sheets, make the track pieces. The Dorking Advertiser has double sheets which when cut into 4 will make pieces of the correct size. These could be taped or glued together but this is not necessary unless the game is particularly rough. Although not essential, pieces can be painted on one side with a single coat of pale emulsion using a roller ( *Caution: mess zone)* and left to dry.  22 or more are numbered with a broad nibbed felt pen. A dashed line divides each of them lengthwise to make two lanes and the piece numbers and other markings allow them to be laid on the floor in order.

Special pieces represent the START grid, the finish and direct cars to and from the PIT.  The grid is made using two extra pieces. One is  cut diagonally into two and attached to the flanks of the central piece forming a fan. This is marked with four start positions and two additional positions are added behind these giving a total of six. A further piece is marked LAP- FINISH. If more than one lap is included in the game this piece is placed adjacent to the start piece to form a continuous loop.
A further 6 or more pieces are used to form the pits. They are numbered 1- 6  PITS (or more if desired).  3 of these pieces are also marked; FUEL; TYRES and REPAIR. They are separated by one or more numbered PIT pieces.

The section shown < < represents the Pits. Small boxes covered with scrap paper and painted can be marked with spectators and flags. LEGO (TM) can be used to make spectators, mechanics in the pits, street furniture, piles of tyres and fuel pumps.

The track can be routed under chairs and tables to add interest. The pieces are mostly laid in numerical order and curves are created by laying the ends of pieces over each other as shown.

One or two of the numbered pieces on the main track, (not shown, but determined when the track is laid out and between piece 9 and 14) will be marked, or have a "post - it note" (TM) attached, 'Enter pits at next throw".
Four or five pieces after this note the piece PIT 1 is positioned at an angle just under the main track. The remainder of the pit pieces continue parallel to the track and piece PIT 6 or later is positioned to meet the main track at an angle

## Tools and Materials: *Not including those required to make the track and cars*
A pair of standard dice and a dice cup.
Scissors
Contact adhesive. I use thin layers of UHU (TM)  glue on opposing services.
Emulsion paint, rollers, brushes, tray protective sheet, drying line, clips or pegs* *If desired and available to be used under supervision. May cause mess.*
A dark coloured marker pen with broad tip. A small screwdriver /cross head and blade
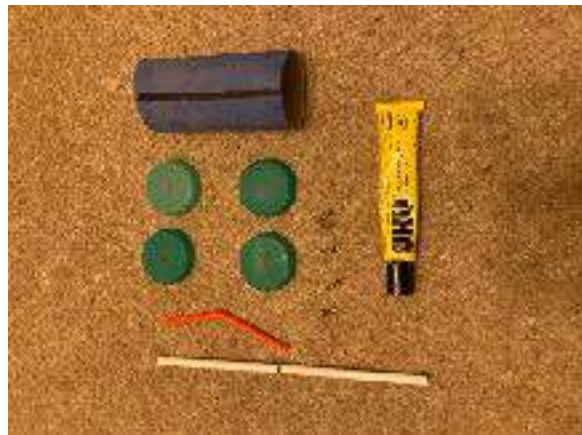
**The Cars:**

*Cars are moved between pieces of track rather than rolled. The wheels do not have to turn.*

The bodies are made from discarded toilet roll cores.
Exhaust and axles from paper straws
Wheels are made from plastic milk bottle tops.

The wheels are fastened to the axles with wood screws. (**Caution**: *Small pieces, can be swallowed).*





Cars are numbered 1 to 6 depending on the number of players and painted in different colours with two coats of water colour or poster paint. Stickers, stars and other decorative elements can be applied . The axles are made from paper straws. The wheels are made from plastic bottle tops
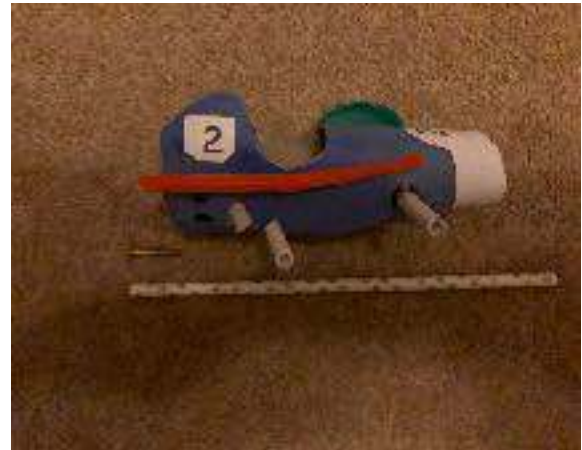




secured to the axles with an appropriate size of wood screw. If desired a driver can be made from LEGO (TM) , wool, card or paper. Contact adhesive is used to hold the axles and exhaust in place and used to bond the body together once it has been trimmed appropriately. Detailed design can be varied as desired.

The tube is marked with the pen down its length and using scissors (*Caution: sharp instrument*) cut along this line.

The position of the cockpit is marked and is cut away. The front part of body is cut away so that the air intake at the front is narrowest, tapering up to the cockpit Test this for appearance and apply glue to the mating surfaces. Hold them together until bonded. A cut is made on the rear body under the fin as shown above and the tail fin is glued to bond both parts together. Once firmly fixed the fin is trimmed to give it a final curved shape.

Mark the axle positions and exhaust hole, using the screwdriver or pointed tool to create and size the holes (*Caution: sharp instrument*). Cut two x 70 mm lengths from a paper straw for the axles and one 100 mm length for the exhaust. The front axle is about 20 mm in front of the cockpit and the axles are about 50-60 mm apart. The exhaust port is approximately 25mm in front of the cockpit on the right hand side.

Fit the axles through the front and rear holes and check for alignment. Once satisfied that the axles are central and parallel, hold them in place with blobs of glue.
Push the exhaust into the front body and hold it back so that it lays against the tail fin. Glue the contact surfaces together so that the exhaust is held against the fin.

Pierce each wheel centrally with a pointed object (*Caution: sharp instrument*). Crimp the ends of the axles to retain the screws. Screw through the wheels from the outside into the crimped axles until they are held firmly in place.

Car numbers are made using pieces of kitchen sticky labels. One for each side of the fin and one to wrap around the front of the air intake

**The Game:**

Build the track using as many track pieces as you wish with a START grid at the beginning and a LAP / FINISH at the end, Our picture shows 22 track pieces and 6 PIT pieces including FUEL, TYRES and REPAIRS. This is just a suggestion. Build a car, numbered appropriately for each competitor. There is nothing to stop an enthusiastic competitor having a team of two or three cars. It would also be possible for two teams to play on line via Zoom or on video phones to game remotely.

On the START grid cars 1 and 2 are placed side by side, one in each lane. If there are four cars, 3 and 4 start to each side and slightly behind 1 and 2. 5 and 6 start behind 3 and 4. This section is designed as a fan allowing cars to squeeze past each other onto the two lane track, possibly blocking each other at the start.

Cars 1, 3 and 5 start in the inside lane, whereas 2,4 and 6 will start in the outside lane.

**To Start:**

Each player throws both dice in number turn, 1 to 6. This determines the start order. For instance, if player for car 3 throws a 3 and some other number this gives 3 permission to start. If the other players don't throw their car number during this round 3 can proceed at the next throw but the others have to wait for the next turn to throw to win their start permission. Player 3 will throw two dice when it is their turn. Say they throw 3 and 2 (5 points). 3 can then proceed down five pieces on the track. If there is only a single player this step is ignored.

If the track ahead is clear, a player can proceed. However, if there is another player's car in the lane ahead, the following player must overtake or undertake or stay behind. To pass they expend one point to move into the other lane if it is clear, then move sufficient pieces to pass. If they want to block their rivals, they can expend further points from their throw to move back into their original lane. They do not have to do this and can choose to stay in the passing lane.

It is also possible as a strategic move, to block a competitor by moving lanes. As an example, a competitor is 3 pieces ahead in the outside lane. The throw is 3 and 4. 4 takes your car one piece past the competitor car. You use 1 point to transfer into their lane and block them. You then have two points left and proceed for two pieces forward.

In summary:  to move around a blocking stationary car will cost at least 1 point to change lanes, X points to move forward to pass it and 1 point to move back into the original lane. These points are deducted from the passers throw.

One (or two) of the pieces between 9 and 14 are marked with (a) sticky note(s) PIT DIVERSION AHEAD . If a player lands on one of these pieces they must move down the pit lane which will be set 4 or 5 pieces later.  If they score sufficient points to pass the PIT DIVERSION instruction piece(s)  they do not enter the pit and proceed around the track.

After landing on a Diversion piece the next throw of the dice will instruct the player which PIT piece they land on and hence what penalty the pit stop will cost.  If the cumulative throw from the Diversion piece is 4 and 5 ( 9 points) for instance the player diverts down the pit lane and lands on PIT 4 TYRES thus missing the next turn. If they throw 10 points they can make the next throw and proceed towards or past the pit exit. This is because there are un-marked pieces in the Pit section where a car can stop without a missed turn penalty. However it is possible that the exit is blocked by a competitors car. In which case the player proceeds to the exit and waits until the exit is clear.

To sum up: Cars entering the pit lane will either land on a piece that is numbered but has no further instruction, or, will land on a numbered piece that is marked FUEL; TYRES or REPAIRS. FUEL and TYRES cost one missed turn and REPAIR costs two. It is possible (but bad luck) that a car will land on FUEL, miss a turn, throw a combined score of 4 points and land on REPAIR. They then have to miss two turns before proceeding. Note: The order listed is a suggestion and it would be possible to change the order, add other penalty stops or add other PIT pieces that have no penalties attached.

The length of races is agreed in advance and may be a single lap only and the winner is awarded a prize when they cross the finish line. Alternatively, any number of laps can be agreed. Typically 5 to 10. In this case the FINISH piece feeds into the START Grid forming a continuous loop. The cars do not stop at the FINISH but continue into the next lap.

Make a record of who wins what. With a gold, silver or bronze sticky stars on a score card. It is useful to photograph the track and pit layouts so that the room can be cleared for other activities or so that a particular Grand Prix can be recreated.