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Merry-Go-Round

Maker Pack: Skill Level ● ● ● ○ ○

Upcycle
a box to create
your own
fairground
ride!

Explore
mechanisms
like gears and
wheels and
axles.

See how
to make with
TechCard
on our
website.



Parts to make 1 model

Structural Parts

TechCard Strip	1
TechCard Beam	1

Mechanical Parts

25mm Disc	2
50mm Wheel	1
60mm Wheel	1
300mm Dowel Axle	2

Additional Materials

Upcycled box about 180mm x 100mm x 100mm.
Thin card, paints, pipe cleaners, lolly sticks, upcycled bottle tops and packaging.

You will have parts left over towards other models.

Parts to make 10 models

Structural Parts

TechCard Strip	5
TechCard Beam	5

Mechanical Parts

25mm Disc	20
50mm Wheel	10
60mm Wheel	10
300mm Dowel Axle	20

Additional Materials

10 x Upcycled boxes about 180mm x 100mm x 100mm.
Thin card, paints, pipe cleaners, lolly sticks, upcycled bottle tops and packaging.

Based on pupils sharing off-cuts between them.

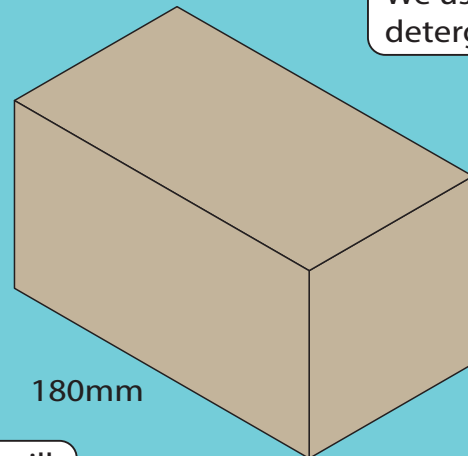
Make the Merry-Go-Round



Before you start see
'Make with TechCard'
on our website.

1 Select the box.

We used a small
detergent box.

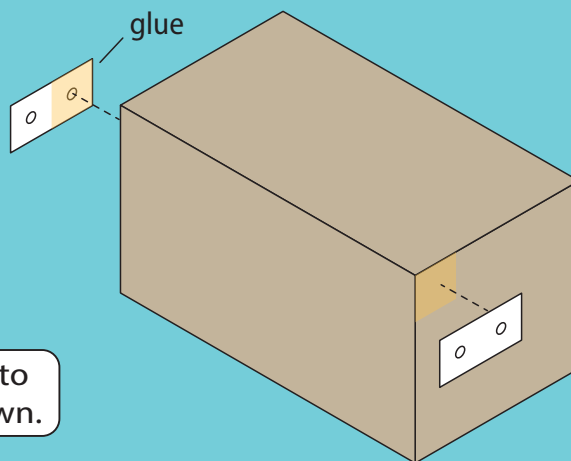


Many small boxes will
work for this model.

2 Make the supports.

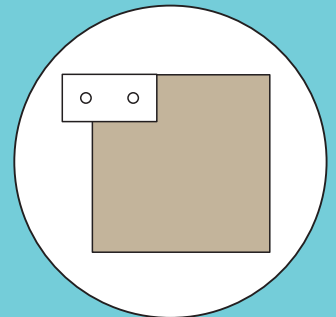


Cut two 50mm
strips.

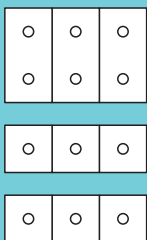


Make sure the strips are
straight and line up.

Glue the strips to
the box as shown.

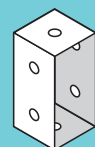
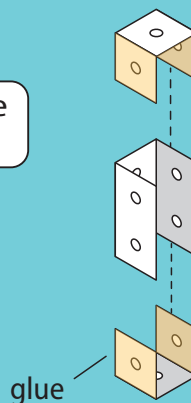


3 Make the bracket.



Cut one 50mm beam
and two 25mm beams.

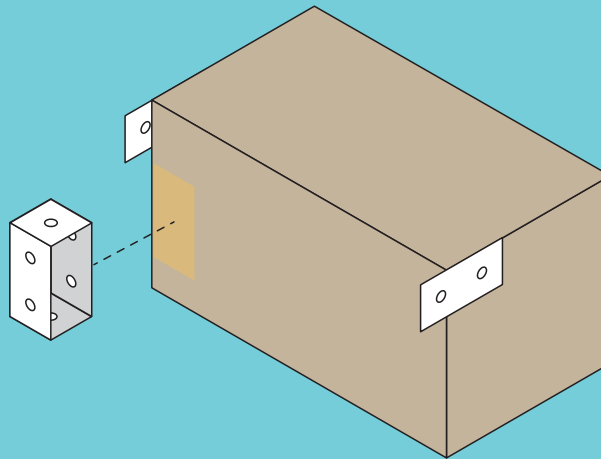
Fold and glue the
beams as shown.



Check the
assembly.

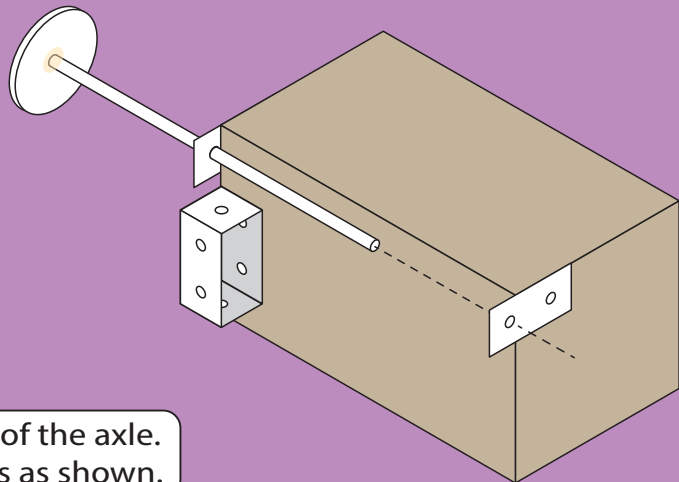
4 Fit the bracket.

Glue the bracket to the box where shown.



5 Fit the drive wheel.

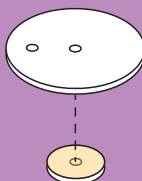
Cut an axle 40mm longer than the box.



Glue a 50mm wheel onto the end of the axle. Pass the axle through the supports as shown.

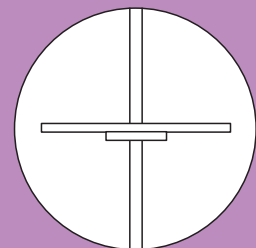
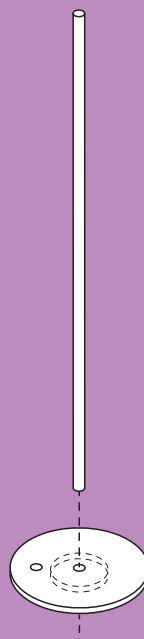
6 Assemble the vertical axle.

Cut a 250mm axle.



Glue a 25mm disc under a 60mm wheel as shown.

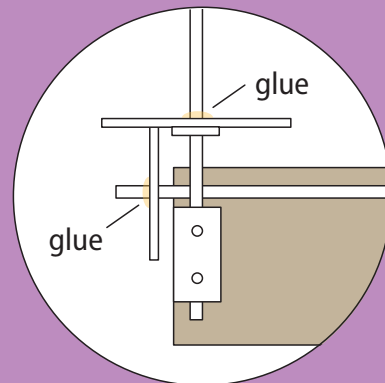
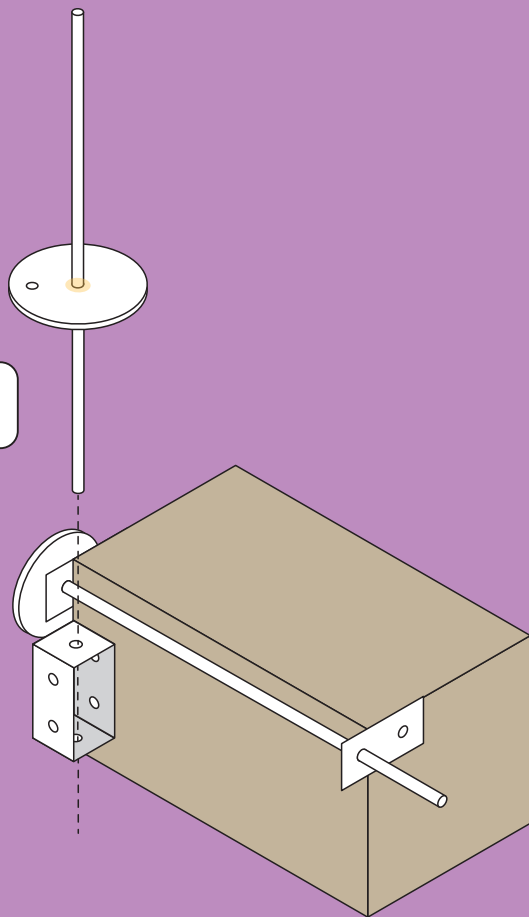
Pass the axle through the wheel assembly.



Check the assembly.

7 Fit the vertical axle.

Pass the axle through the bracket as shown



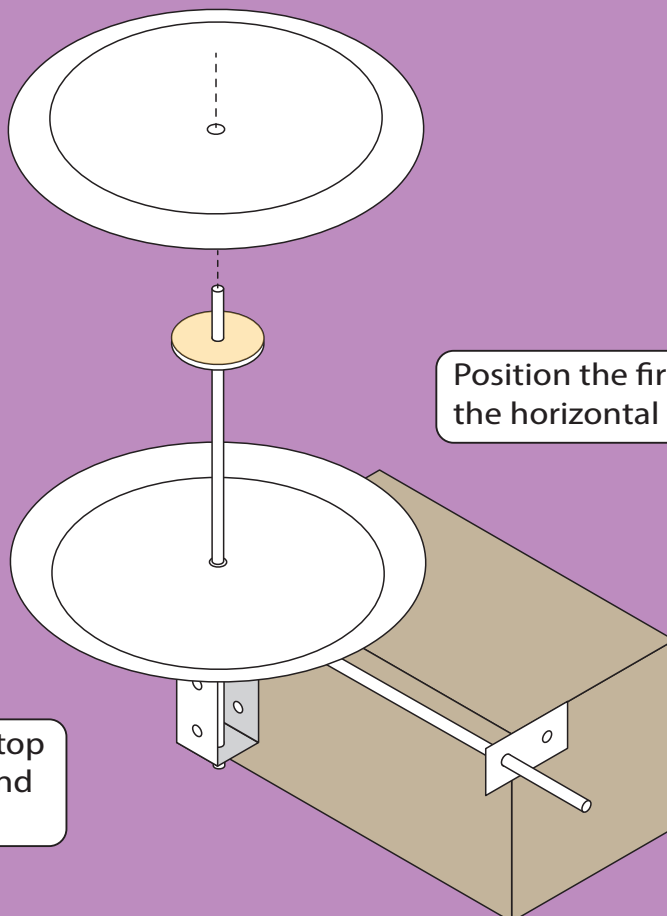
Adjust the axle so it sticks out below the bracket. Check the wheels are straight and glue to the axles.

8 Finish your model.

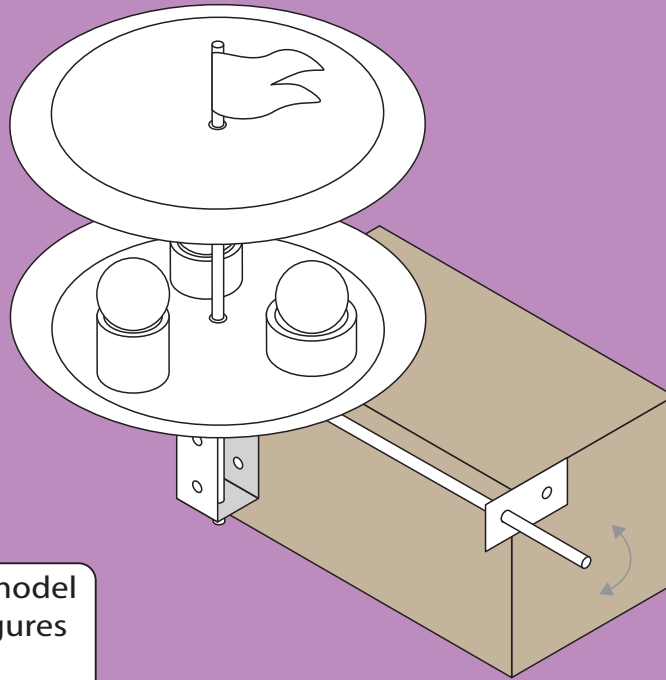
Make a hole in the centre of two small plates or cut circles from thin card.

Position the first plate on the horizontal wheel.

Fit a 25mm disc near the top of the axle. Glue the second plate onto the disc.

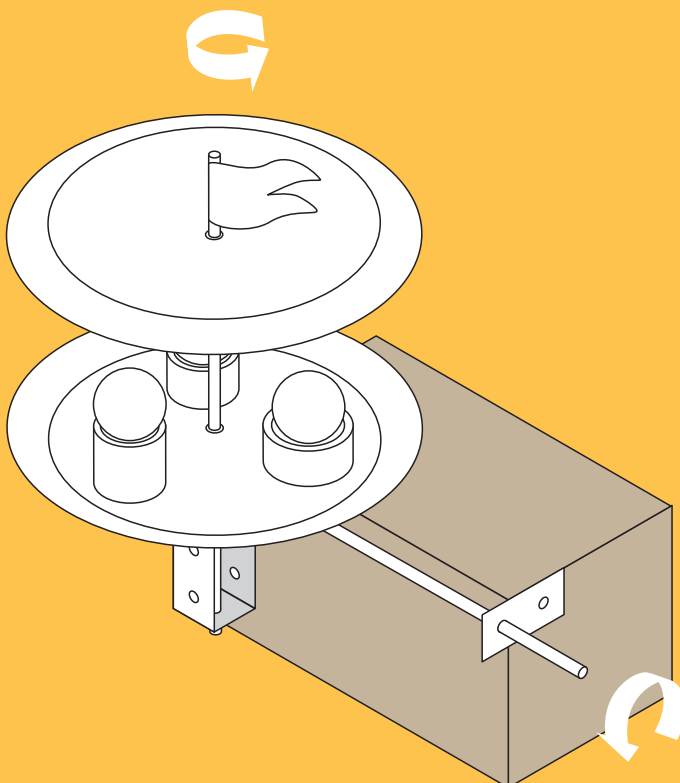


9 Decorate your model.



Add a flag and paint your model with bright colours. Add figures from bottle tops and other upcycled materials.

10 Operate your Merry-Go-Round!



As you turn the winder, the turning force is transferred from the vertical wheel to the horizontal wheel.

The rotating wheels work just like gears only gears have teeth so they can't slip.