



Visit TechCard at techcard.co.uk & Instagram & YouTube

Race Car

Maker Pack: Skill Level ● ● ○ ○ ○

Upcycle an empty box and transform it into a Race Car!!

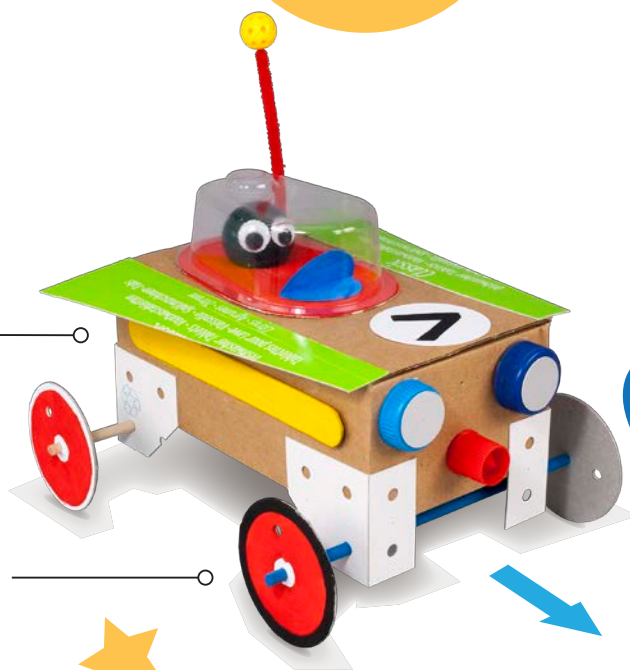
Explore how wheels reduce friction so things can move easily.

See how to make with TechCard on our website.

Use a small to medium size box.

Discover how wheels make things move more easily.

Assemble working wheels and axles.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

TechCard Beam 1

Mechanical Parts

60mm Wheel 4
300mm Dowel Axle 2

Additional Materials

Upcycled box about 180mm x 100mm x 70mm.
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 Beam 10

Mechanical Parts

60mm Wheel 40
300mm Dowel Axle 20

Additional Materials

10 x Upcycled boxes about 180mm x 100mm x 70mm.
Thin card, paints, pipe cleaners, lolly sticks, upcycled bottle tops and packaging.

Based on pupils sharing off-cuts between them.

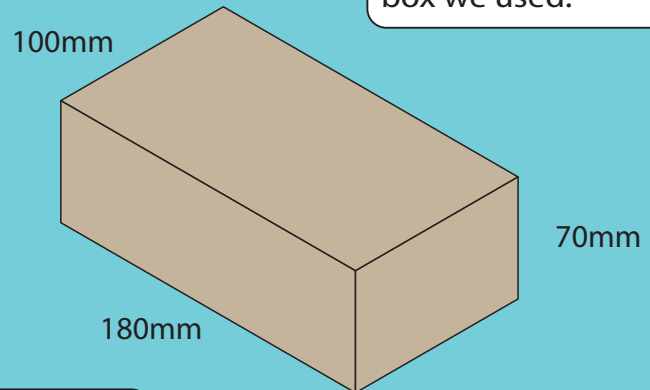
Make the Race Car



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

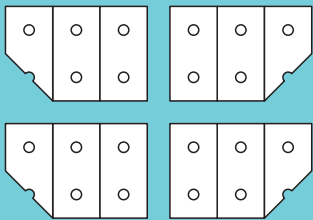
1 Choose your box.

This is the size of the
box we used.



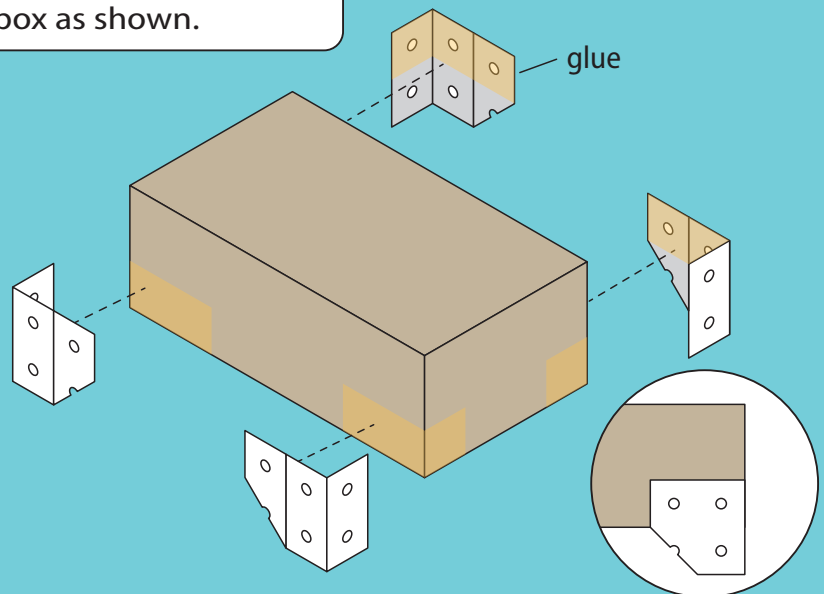
Many box sizes will
work for this model.

2 Add the axle brackets.



Cut four 50mm beams
and cut a corner off
each as shown.

Fold and glue the four beams
to the box as shown.

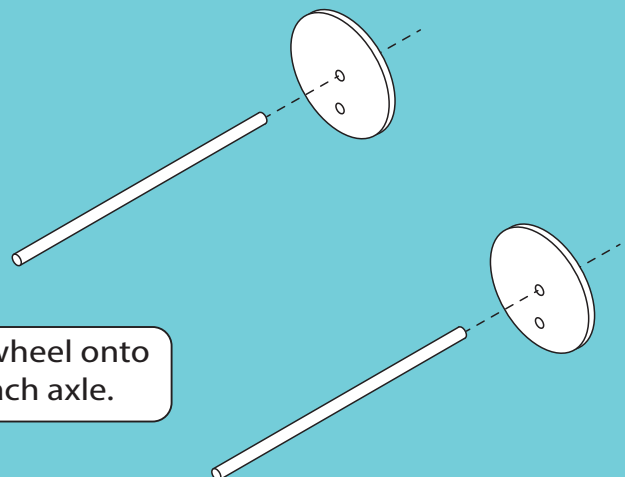


3 Prepare the axles.



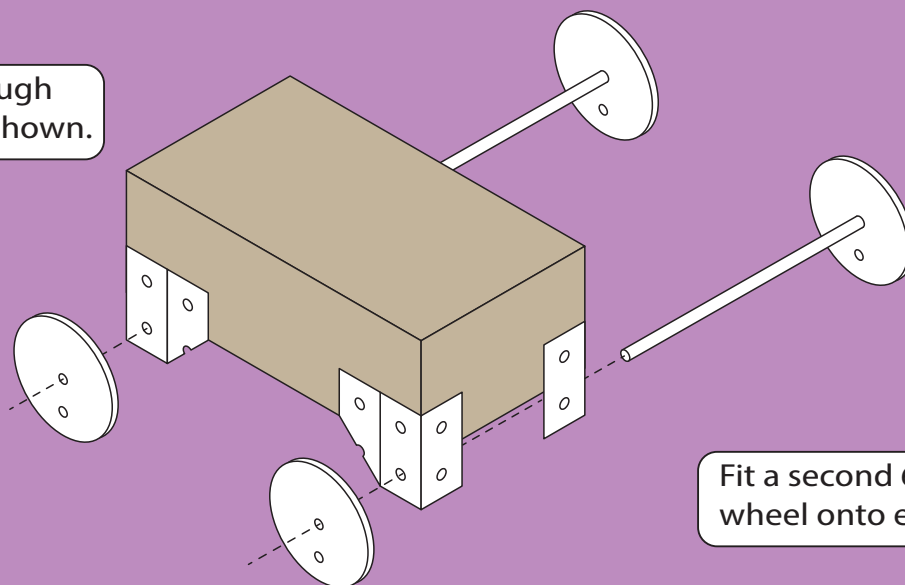
Cut two axles about
25mm longer than
the width of your box.

Fit a 60mm wheel onto
the end of each axle.



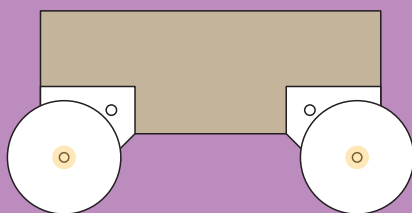
4 Fit the wheels and axles.

Pass the axles through the beams where shown.

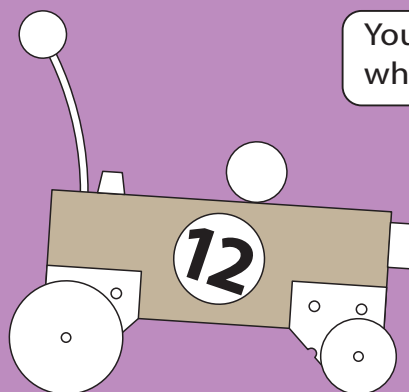


Fit a second 60mm wheel onto each axle.

5 Finish the race car.



Check the wheels are straight and glue them to the axles.



You can use smaller wheels at the front.

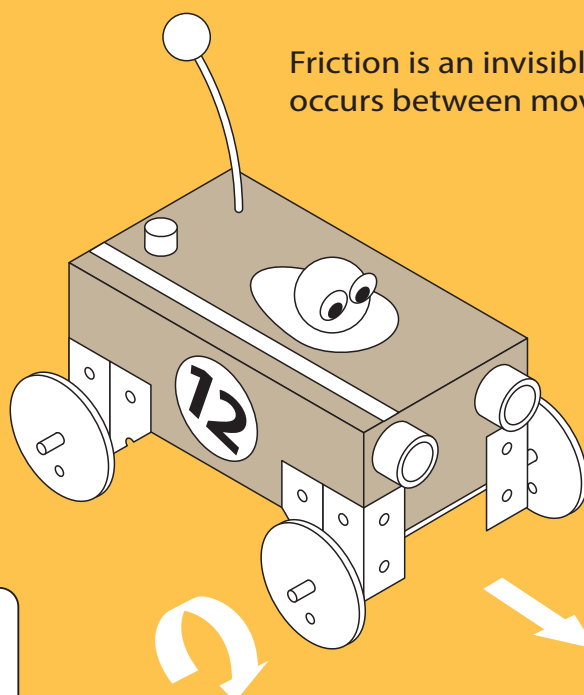
Decorate your model to make it your own!

6 How wheels work.

Wheels and axles are one of seven important mechanisms known as 'simple machines'.

Without wheels the underside of the car would drag along the ground creating friction.

As the wheels rotate, only a small amount of contact is made with the ground so friction is greatly reduced.



Friction is an invisible force that occurs between moving surfaces.