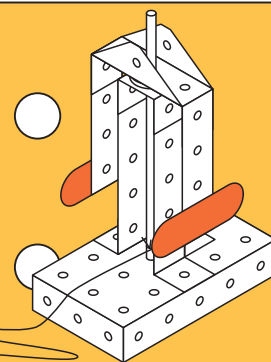




Visit TechCard at techcard.co.uk & Instagram & YouTube

Pull-Cord Ride

Make and Create: Skill Level ●●●●○



Pull the cord to make the gondolas spin and rise up and down!

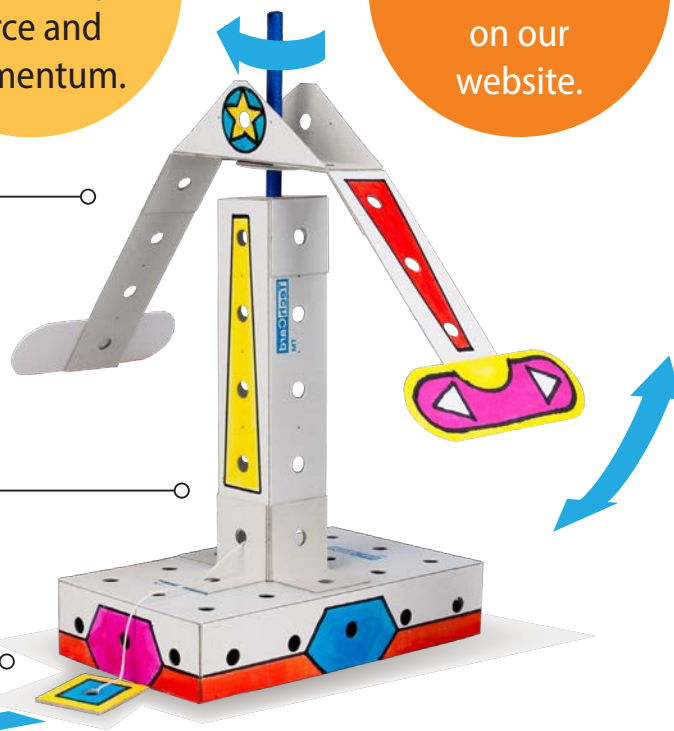
Explore the effects of centrifugal force and momentum.

See how to make with TechCard on our website.

As the ride spins the arms rise up due to centrifugal force.

The ride continues to spin and rewinds the cord to be pulled again.

Pull the cord to make the ride spin.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

TechCard Strip	1
TechCard Girder	1
TechCard Beam	1
TechCard Base	1

Mechanical Parts

25mm Disc	1
200mm Dowel Axle	1

Additional Materials

400mm String
A5 Size Thin Card

You will have parts left over towards other models.

Parts to make 10 models

Structural Parts

TechCard Strip	10
TechCard Girder	5
TechCard Beam	4
TechCard Base	10

Mechanical Parts

25mm Disc	10
300mm Dowel Axle	10

Additional Materials

4M String
A5 Size Thin Card x 10

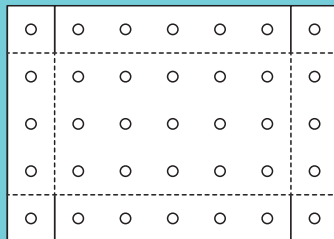
Based on pupils sharing off-cuts between them.

Make the Pull-Cord Ride

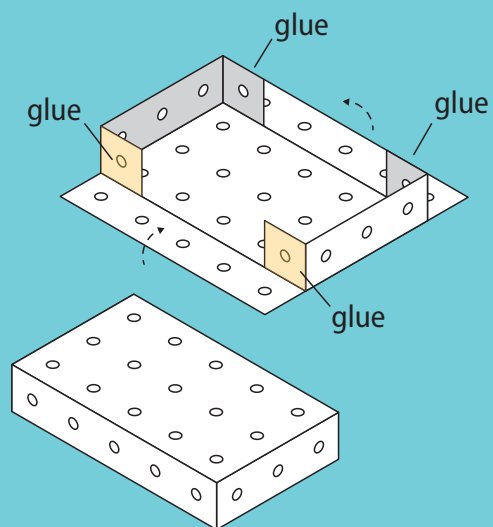


Before you start see
'Make with TechCard'
on our website.

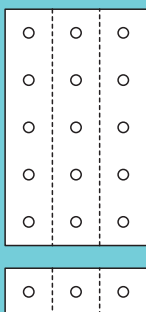
1 Make the base.



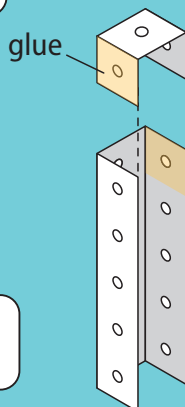
Fold and glue a
TechCard Base.



2 Make the tower.

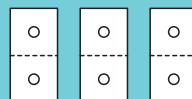


Cut a 125mm and
25mm beam.



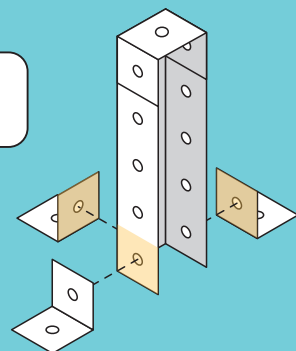
Fold and glue the beams
together as shown.

3 Make the brackets.



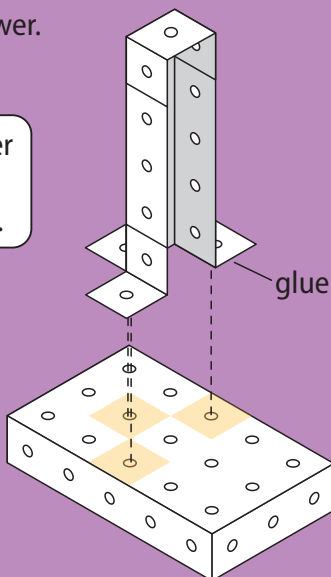
Cut three 25mm
girders.

Fold and glue the girders
onto the beam as shown.

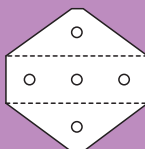


4 Fit the tower.

Glue the tower
onto the base
where shown.



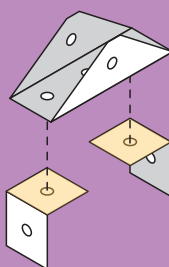
5 Make the top section.



Cut a 75mm beam
and cut to shape.

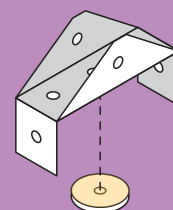


Cut two 25mm
girders.

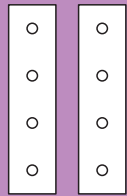


Fold to shape and glue
the girders to the beam.

Glue a 25mm disc
under the beam.

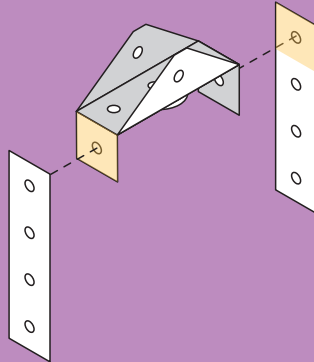


6 Fit the arms.



Cut two 100mm strips.

Glue the strips to the girders as shown.

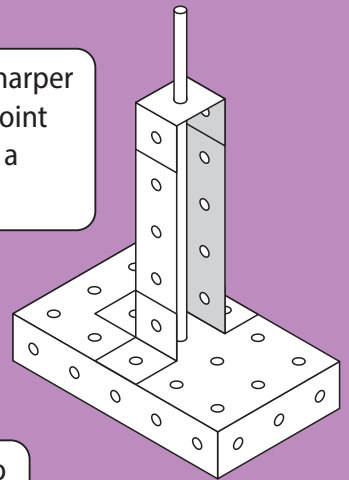


7 Fit the axle.



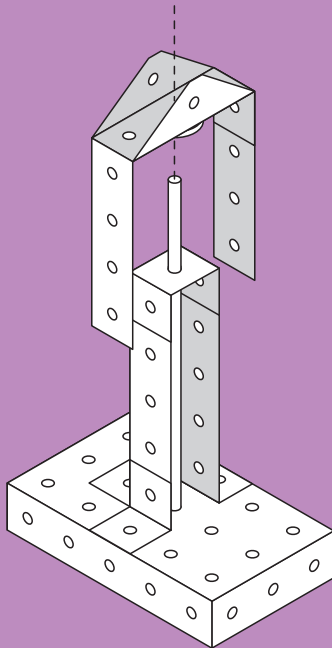
Use a pencil sharper to put a dull point on one end of a 200mm axle.

Fit the axle into the tower.



8 Fit the top section.

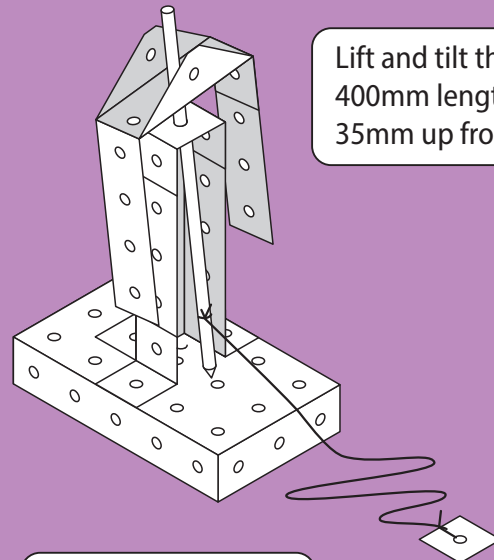
Slide the top section down the axle leaving a 5mm gap to the top of the tower.



Check the top section is straight and glue to the axle.

9 Fit the string.

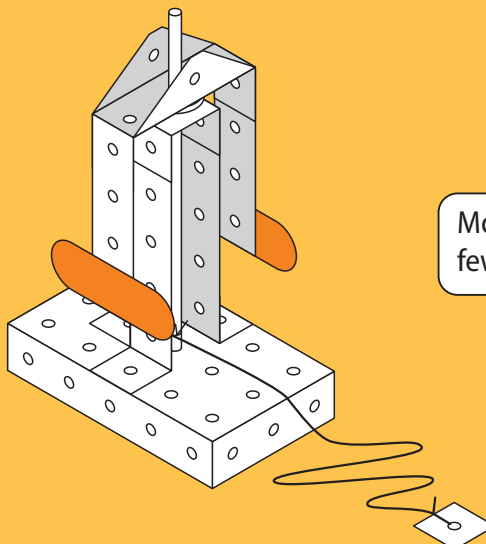
Lift and tilt the axle. Tie a 400mm length of string 35mm up from the end.



Tie a 25mm strip to the end of the string.

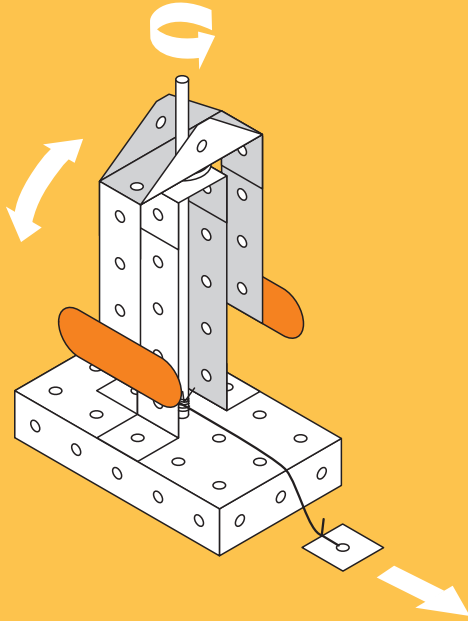
10 Finish the model.

Glue the gondolas to the ends of the strips.



Move the arms up and down a few times so they move freely.

11 Operate your Pull Cord Ride!



Turn the axle to wind the string.
Hold the base and pull the string.

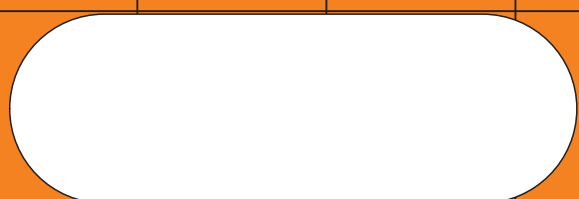
The ride will spin and
the arms will go up.

The axle will keep spinning and rewind the string.
As the end of the string nears the base, pull the
string again to keep the ride going.

With practice you can keep
the ride going like a yo-yo!

Pull the cord and the force is transferred to the axle making it spin. As it spins, centrifugal force causes the ends of the arms to move outward and upward. When the end of the string is reached, the ride will keep spinning due to 'momentum' and will rewind the string. The momentum is greatly increased by the arms which have extended outward increasing the spinning force. With practice you can keep the ride going in a similar way to a yo-yo!

Card Panels



Print and cut along the solid lines of the two panels.

25mm

25mm

Alternatively, copy the panels onto thin card
and cut in the same way. Or you can design
and make your own body panels!