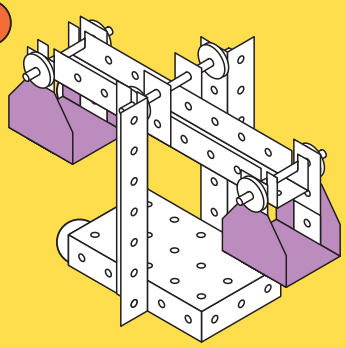
Visit TechCard at techcard.co.uk & Instagram & YouTube

Balance Scales

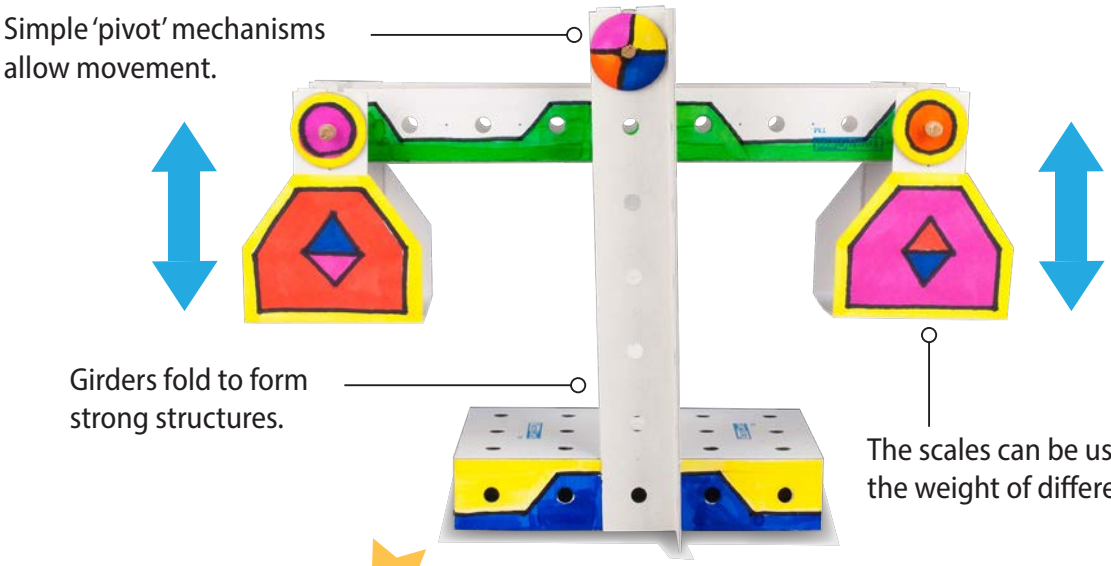


Build-it Kit Skill Level ●●●○○

Build a working set of scales and see the force of gravity in action!

Explore levers and pivots and forming strong shapes.

See how to make with TechCard on our website.



Assembly videos on YouTube!

Parts to make **1** model

Structural Parts		Mechanical Parts	
TechCard Strip	1	25mm Disc	6
TechCard Girder	2	300mm Dowel Axle	1
TechCard Base	1		

Additional Materials
A4 Size Thin Card x 1

You will have parts left over towards other models.

Parts to make **10** models

Structural Parts		Mechanical Parts	
TechCard Strip	10	25mm Disc	60
TechCard Girder	20	300mm Dowel Axle	10
TechCard Base	10		

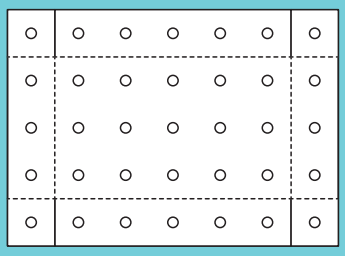
Additional Materials
A4 Size Thin Card x 10

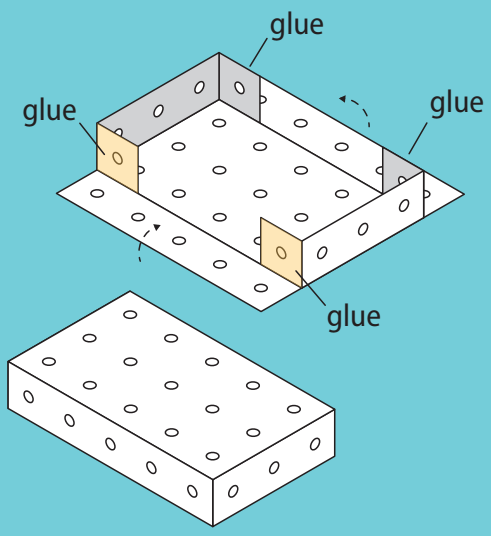
Based on pupils sharing off-cuts between them.

Make the Balance Scales

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

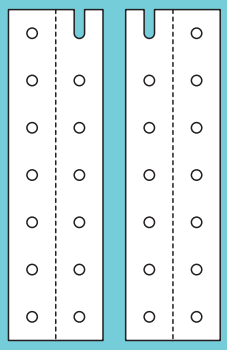
1 Make the base.



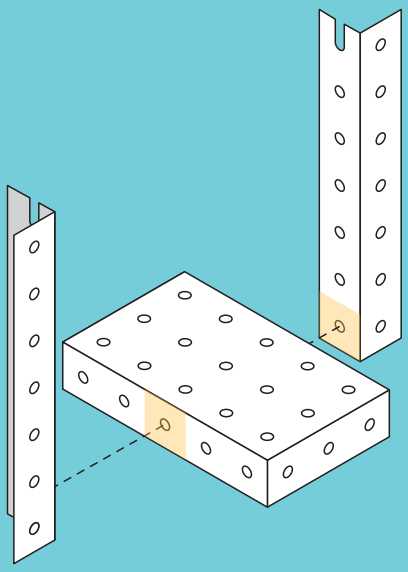


Fold and glue a TechCard base.

2 Make the supports.

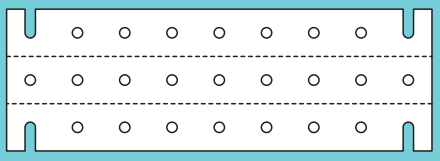


Cut two 750mm girders. Trim the top of each as shown.

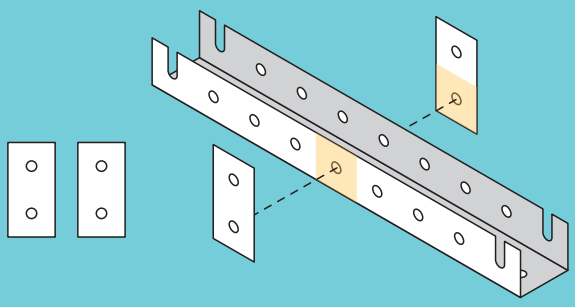


Glue the girders to the base where shown.

3 Make the beam.



Cut a 225mm beam and trim the ends as shown.

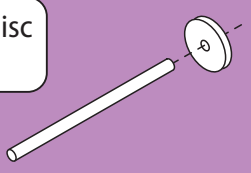


Cut two 50mm strips and glue them to the beam as shown.

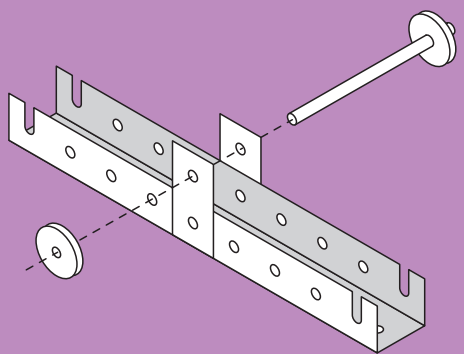
4 Assemble the beam.

Cut a 100mm axle.

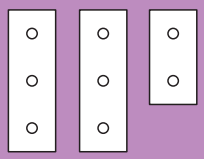
Fit a 25mm disc to one end.



Pass the axle through the strips and fit a second 25mm disc.

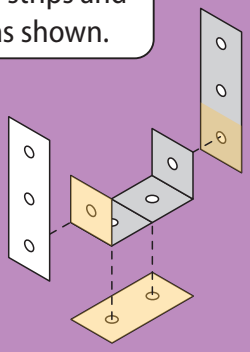


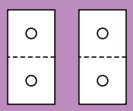
6 Make the cradles.



Cut two 75mm and one 50mm strip.

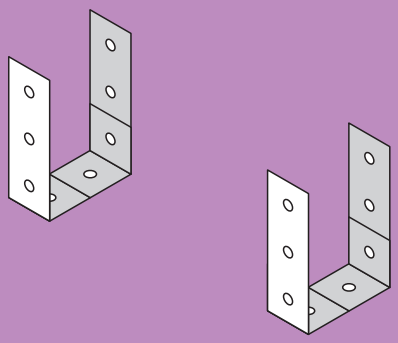
Glue the strips and girders as shown.





Cut two 50mm girders.

6 Make two cradles.

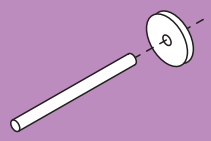


Repeat the steps to make two cradles.

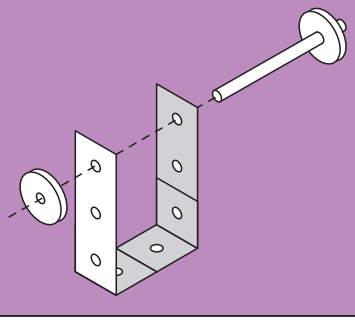
7 Finish the cradles.

Cut a 75mm axle.

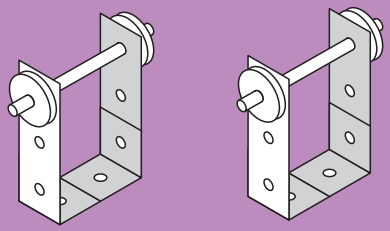
Pass the axle through the craddle and fit a 25mm disc.



Fit a 25mm disc to one end.



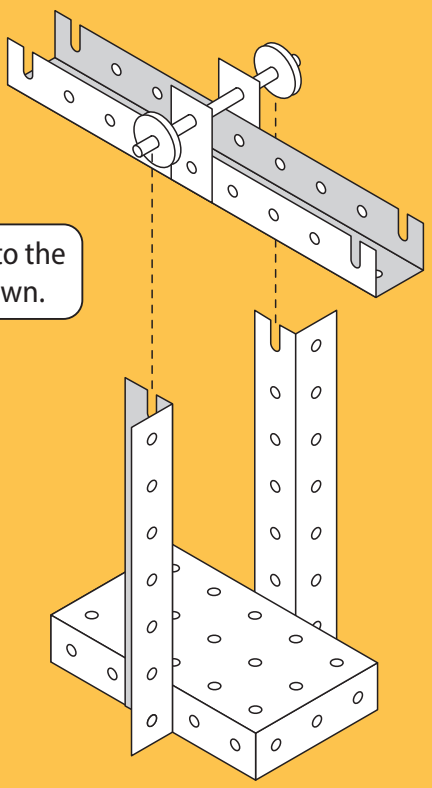
8 Finish both cradles.



Assemble a second craddle in the same way.

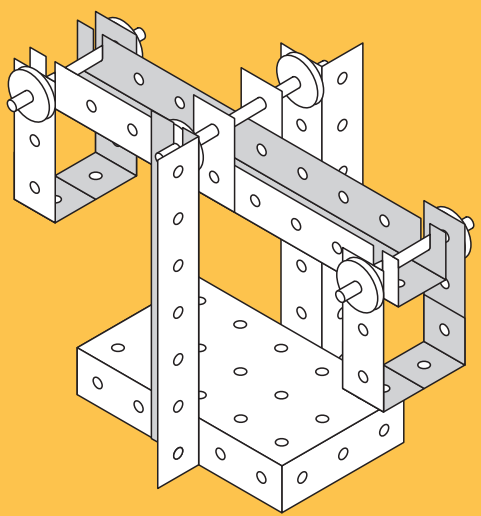
9 Fit the beam.

Fit the beam into the supports as shown.

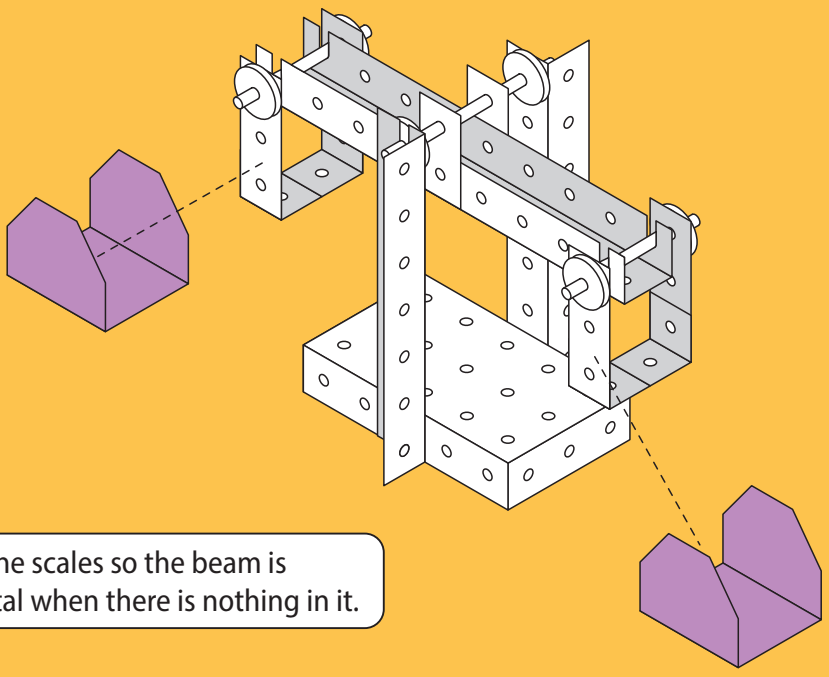


10 Fit the cradles.

Fit the two cradles to the beam where shown.



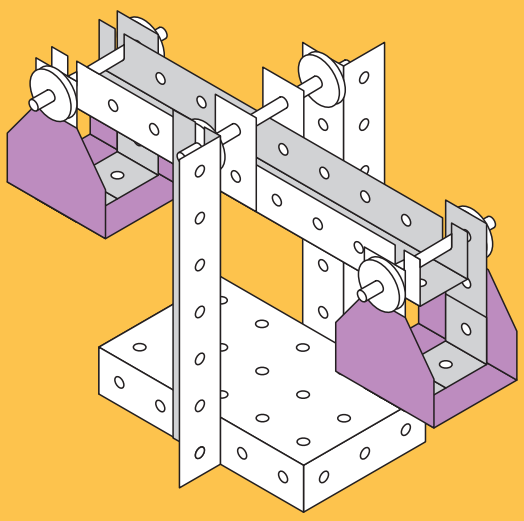
11 Finish the scales.

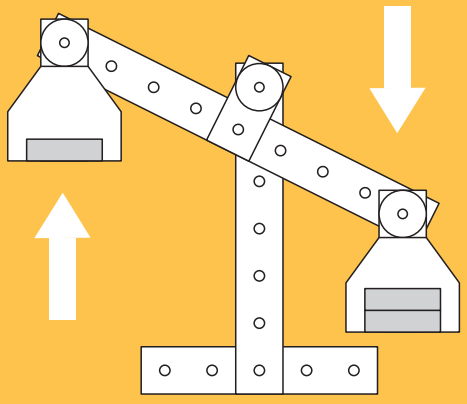


Cut out and fold the pans and glue to the cradles.

Adjust the scales so the beam is horizontal when there is nothing in it.

12 Using your scales.





Use the scales to see which objects are the heaviest. The pan that goes down has the heaviest weight.

Try weighing different types of objects. Which is heavier, a crayon or a pencil? Is a raisin heavier than a grape? A raisin is a dried grape - will they weigh the same?

The invisible force of gravity gives things their weight. Gravity is a force that pushes everything towards the centre of the earth.

Card Panels