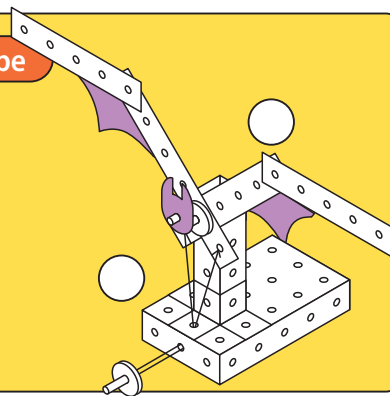




Visit TechCard at techcard.co.uk & Instagram & YouTube

Flapping Bat

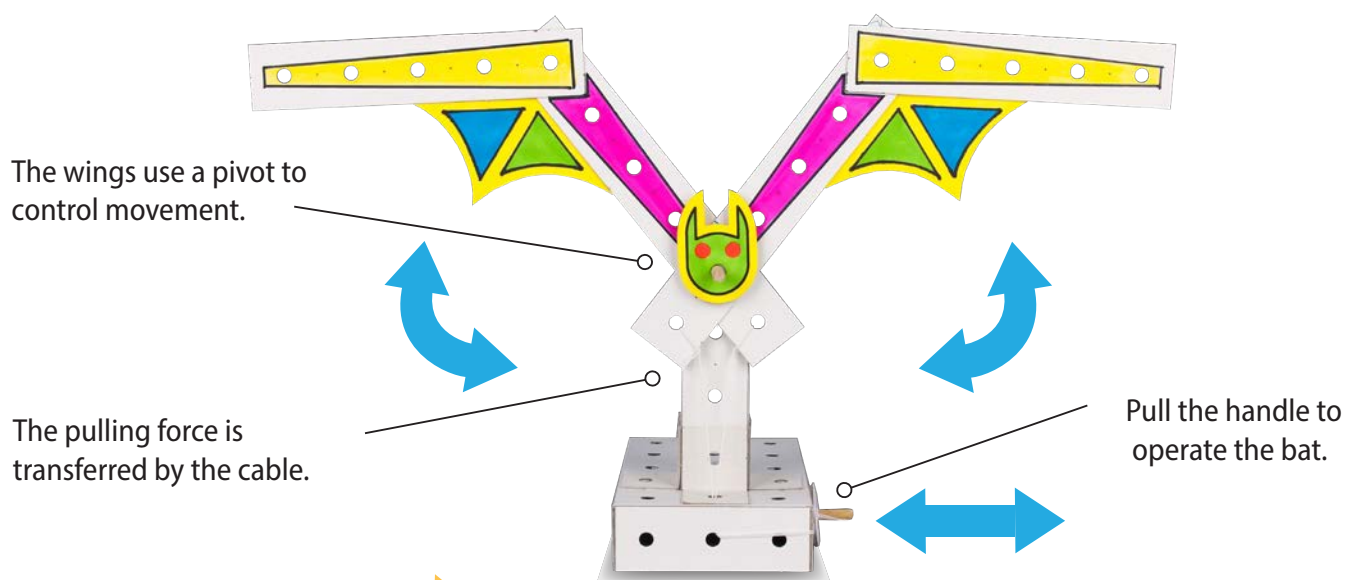
Build-it Kit Skill Level ● ● ● ● ●



Build a model that flaps its wings at the pull of a string!

Explore pivots and levers and how to control forces.

See how to make with TechCard on our website.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

TechCard Strip	2
TechCard Girder	1
TechCard Beam	1
TechCard Base	1

Mechanical Parts

25mm Disc	3
300mm Dowel Axle	1

Additional Materials

450mm Thin String x 1
A5 Size Thin Card x 1

You will have parts left over towards other models.

Parts to make 10 models

Structural Parts

TechCard Strip	20
TechCard Girder	5
TechCard Beam	5
TechCard Base	10

Mechanical Parts

25mm Disc	30
300mm Dowel Axle	4

Additional Materials

450mm Thin String x 10
A5 Size Thin Card x 10

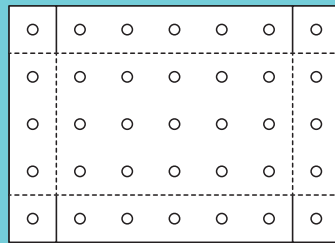
Based on pupils sharing off-cuts between them.

Make the Flapping Bat

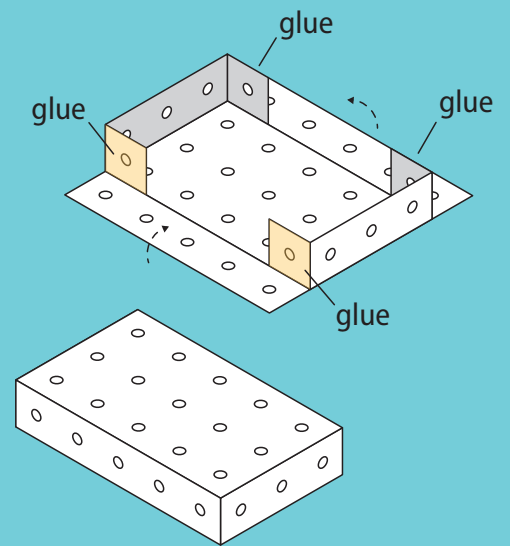


Before you start see
'Make with TechCard'
on our website.

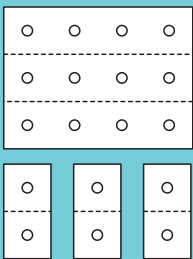
1 Make the base.



Fold and glue a
TechCard base.

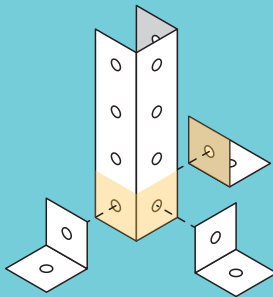


2 Make the tower.



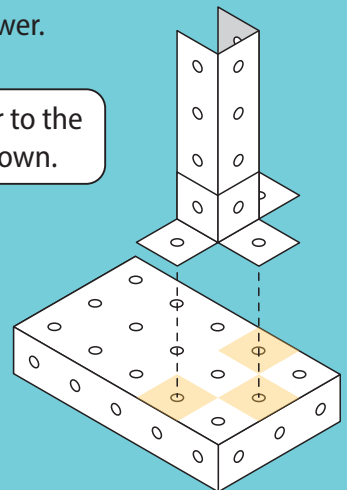
Cut a 100mm beam and
three 25mm girders.

Fold and glue the
parts to form a tower.



3 Fit the tower.

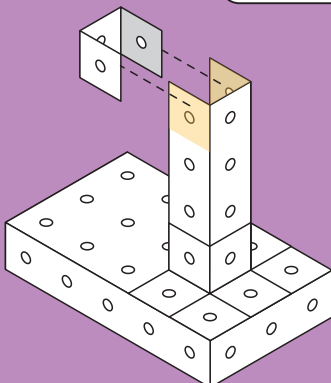
Glue the tower to the
base where shown.



4 Fit the bracket.



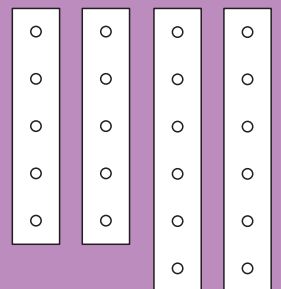
Cut a 25mm
beam.



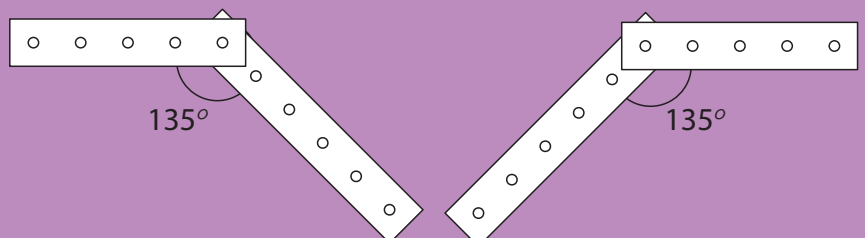
Fold and glue the beam onto
the tower where shown.

5 Make the wings.

Cut two 125mm and
two 150mm strips.



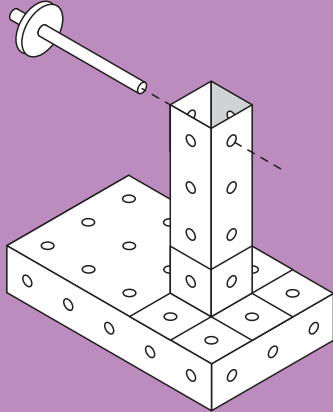
Glue the strips
together as shown.



6 Fit the axle.

Cut a 75mm axle.

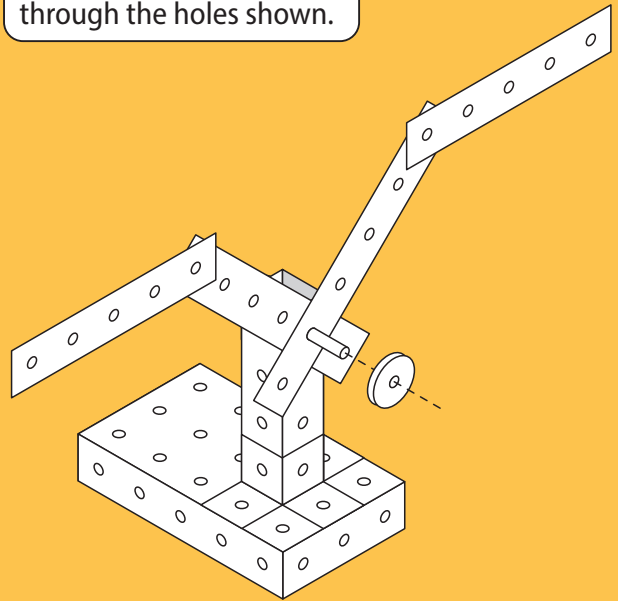
Fit a 25mm disc to the end.



Fit the axle through the tower where shown.

7 Fit the wings.

Fit the wings onto the axle through the holes shown.



Fit a 25mm disc onto the end of the axle.

8 Fit the string.

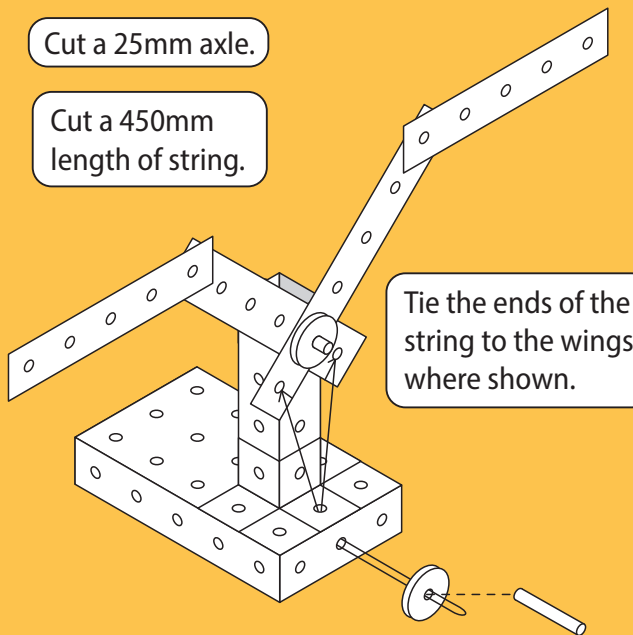
Cut a 25mm axle.

Cut a 450mm length of string.

Tie the ends of the string to the wings where shown.

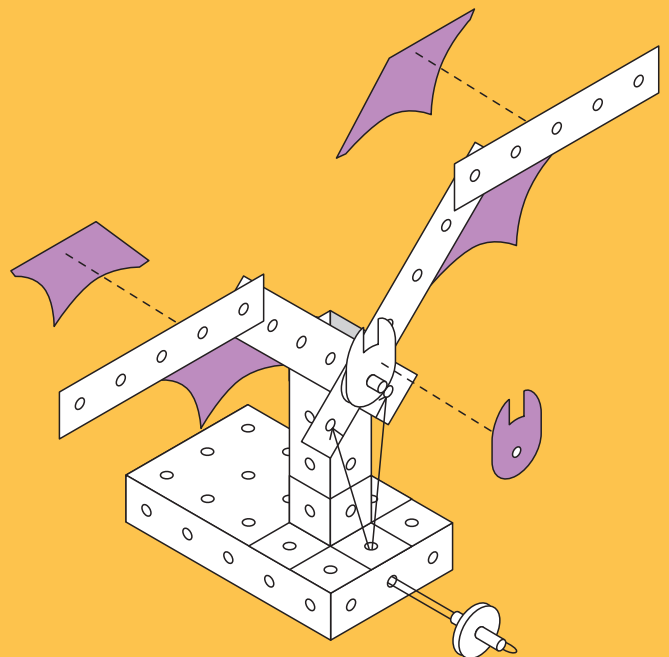
Pass the string through the base as shown.

Pass the string through a 25mm disc and secure with a 25mm axle.

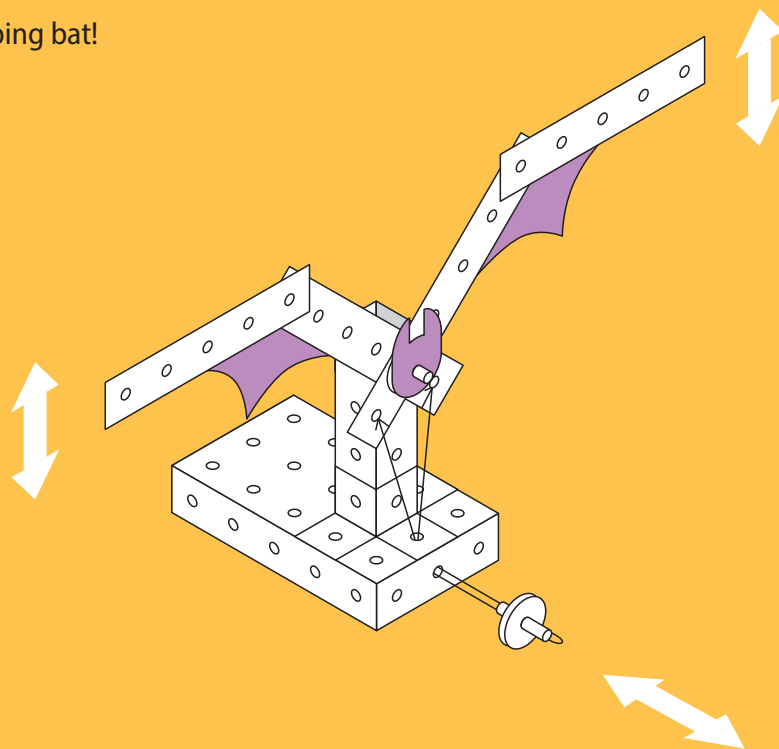


9 Fit the wings and head.

Cut out and glue the body panels as shown.



10 Operate your flapping bat!



Pulling the string creates a pulling force that makes the wings rise. Release the string and the wings fall.

The wings pivot where they are fixed to the tower. Because of the position of the pivot on the wings, the pivot acts like the fulcrum of a lever. The string is only pulled a short distance but the tips of the wings move much further. The lever is increasing the distance the force travels.

The wings fall because of the force of gravity which pulls everything to earth. The fall is controlled by the string. When raising the wings, the force applied to the string is acting against the force of gravity.

Card Panels

