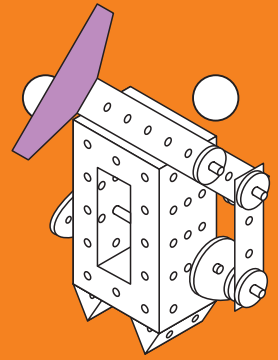




Visit TechCard at techcard.co.uk & Instagram & YouTube

Mechanical Hammer

Move-it Kit Skill Level ● ● ● ○ ○



Discover the important mechanisms that let the hammer do its work!

Explore linkages and levers and see how they change forces.

See how to make with TechCard on our website.

The arm is a first class lever and is increasing the distance the force travels.

The arm is powered by a crank.

The hammer head travels a much greater distance than the force applied to it.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

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

Mechanical Parts

25mm Disc	9
60mm Cam	1
300mm Dowel Axle	1

Additional Materials

A5 Size Thin Card

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 Project Base	10

Mechanical Parts

25mm Disc	90
60mm Cam	10
300mm Dowel Axle	10

Additional Materials

A5 Size Thin Card x 10

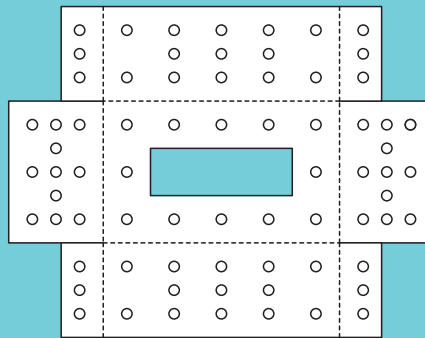
Based on pupils sharing off-cuts between them.

Make the Mechanical Hammer

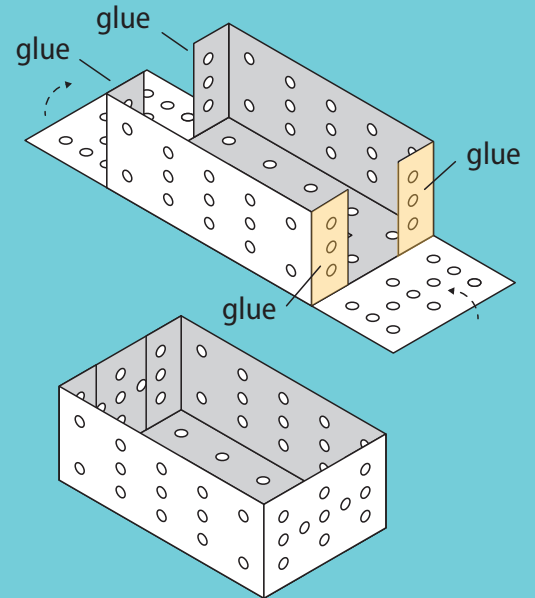


Before you start see
'Make with TechCard'
on our website.

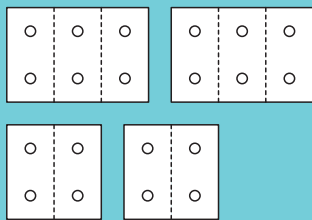
1 Make the base.



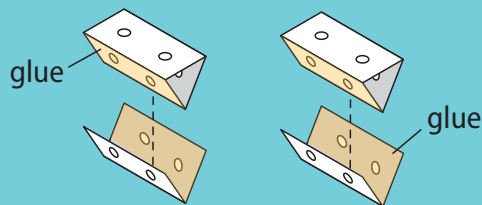
Fold and glue a TechCard
Project base.



2 Make the feet.



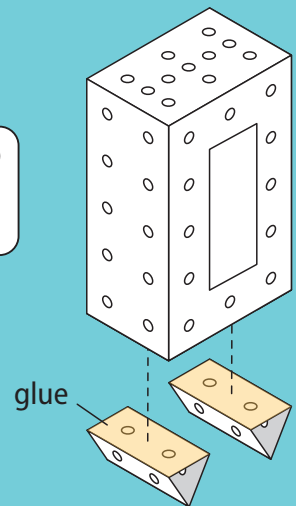
Cut two 50mm beams
and two 50mm girders.



Fold and glue the beams and
girders to form two feet.

3 Fit the feet.

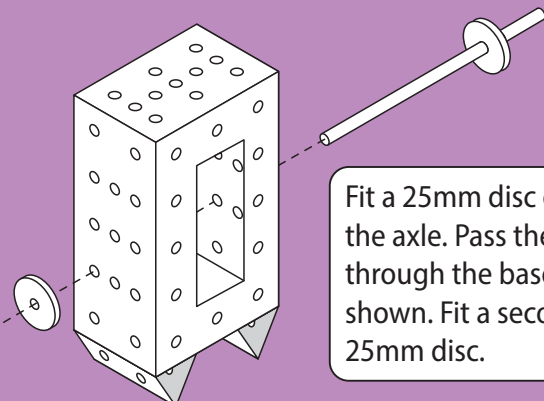
Glue the feet to
the base where
shown.



4 Fit the lower axle.



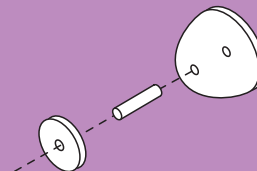
Cut a 110mm axle.



Fit a 25mm disc onto
the axle. Pass the axle
through the base where
shown. Fit a second
25mm disc.

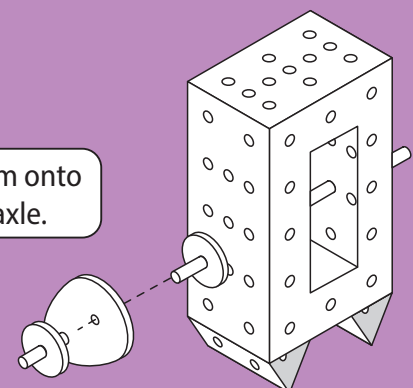
5 Fit the cam.

Cut a 25mm axle.



Fit a 25mm disc onto the axle
and fit the axle into the cam.

Fit the cam onto
the long axle.



6 Fit the top axle.

Cut a 100mm axle.

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

Pass the axle through the base where shown and fit a 25mm disc.

7 Check the axles.

Check the cam is straight and rotates freely.

Glue the cam to the axle.

8 Assemble the arm.

Cut a 225mm and 100mm strip.

Cut a 20mm axle.

Connect the strips with the axle and two 25mm discs as shown.

9 Fit the arm.

Fit the arm to the axle and cam as shown. Secure with two 25mm discs.

10 Finish the model.

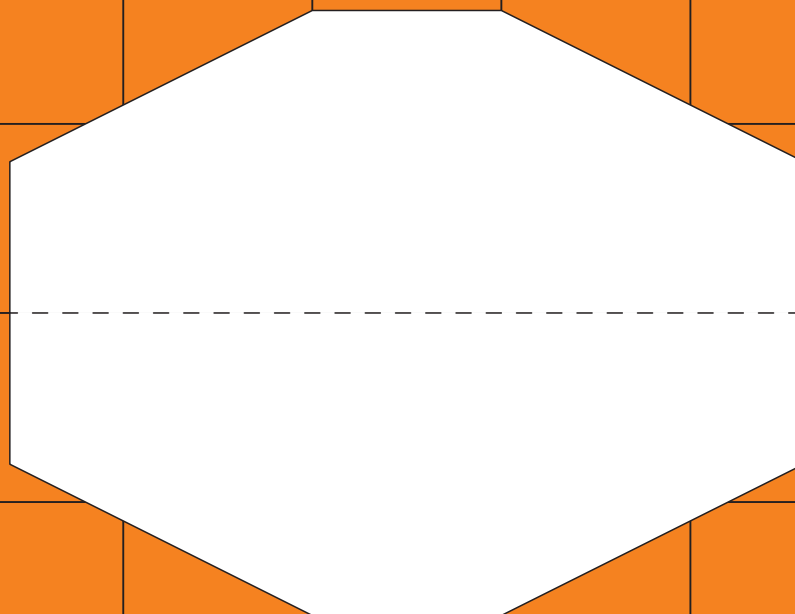
Adjust the model so the mechanism works smoothly. Fit the hammer panel.

11 Operate your Mechanical Hammer.

Turn the spindle and the force is transferred to the cam. As the cam turns it changes the rotating force to an up and down force.

The cam is attached to the hammer by a linkage. The position of the pivot on the hammer arm causes it to act like a lever. Watch as you operate the hammer and you will see that the hammer end moves further than the end attached to the linkage.

Card Panel



Print and cut along the solid lines and fold along the dotted lines of the panel.

25mm

25mm