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Cam Powered Boat

Move-it Kit Skill Level ● ● ● ○ ○



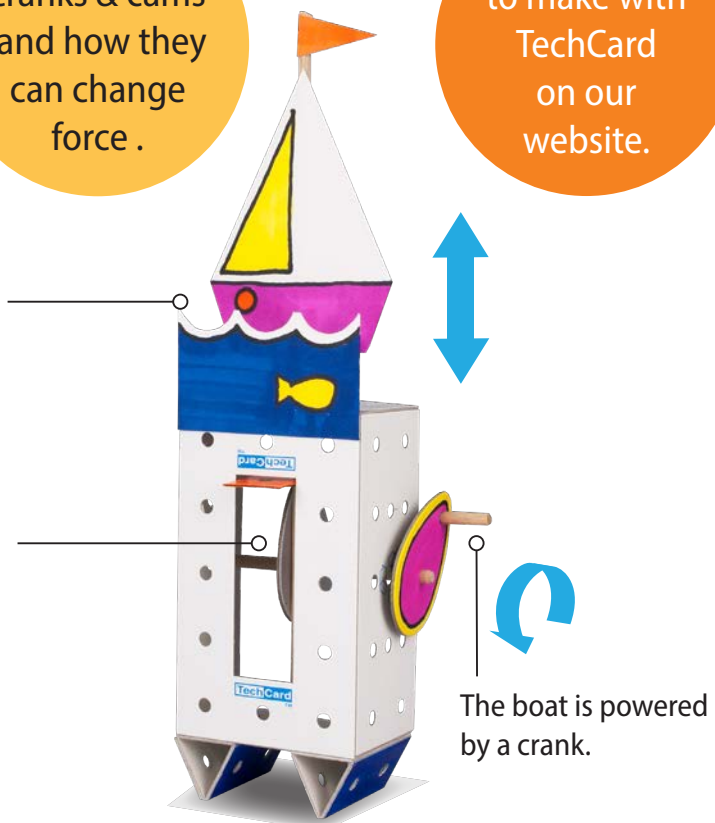
Build a model boat that moves up and down in the waves!

Explore cranks & cams and how they can change force.

See how to make with TechCard on our website.

The boat moves up and down as the crank is turned.

The crank turns a cam. The cam changes the turning force into an up and down force.



The boat is powered by a crank.



Assembly videos on YouTube!

Parts to make 1 model

Structural Parts

TechCard Girder	1
TechCard Beam	1
TechCard Project Base	1

Mechanical Parts

25mm Disc	2
40mm Wheel	1
60mm Cam	2
300mm Dowel Axle	2

Additional Materials

A5 Size Thin Card

You will have parts left over towards other models.

Parts to make 10 models

Structural Parts

TechCard Girder	10
TechCard Beam	5
TechCard Project Base	10

Mechanical Parts

25mm Disc	20
40mm Wheel	10
60mm Cam	20
300mm Dowel Axle	15

Additional Materials

A5 Size Thin Card x 10

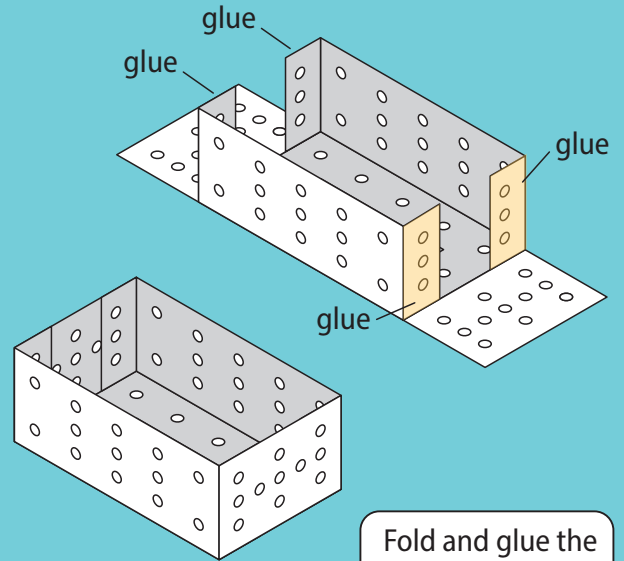
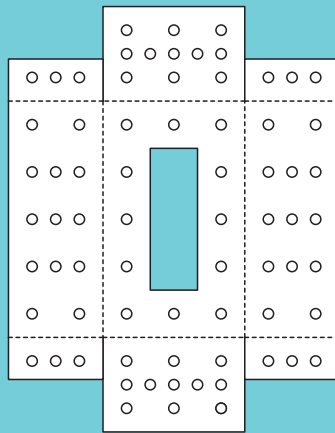
Based on pupils sharing off-cuts between them.

Make the Cam Powered Boat



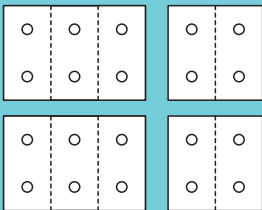
Before you start see
'Make with TechCard'
on our website.

1 Make the base.



Fold and glue the
TechCard base.

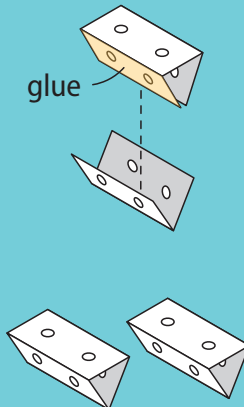
2 Make the feet.



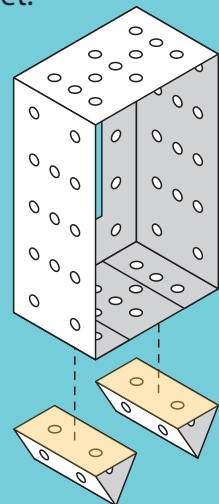
Cut two 50mm beams and
two 50mm girders.

Make two feet.

Fold a beam and girder
and glue as shown.



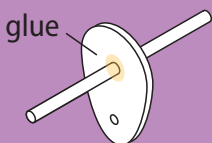
3 Fit the feet.



4 Assemble the cam.



Cut a 110mm axle.

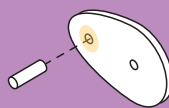


Slide the axle through the
cam half way. Glue the cam
to the middle of the axle.

5 Assemble the crank.



Cut a 25mm axle.

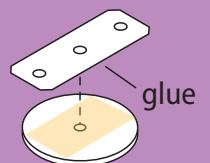


Glue the end of the axle into
the second cam as shown.

6 Fit the strip.

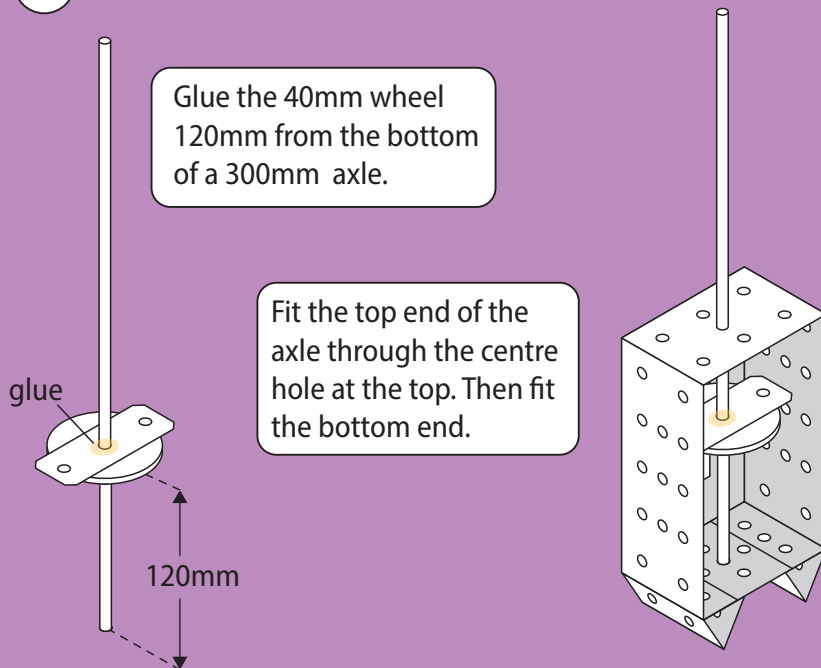


Cut a 75mm strip
from a girder.

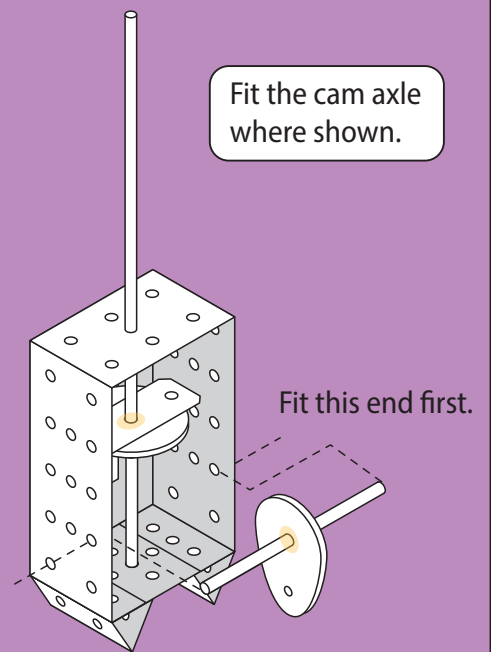


Glue the strip onto
a 40mm wheel.

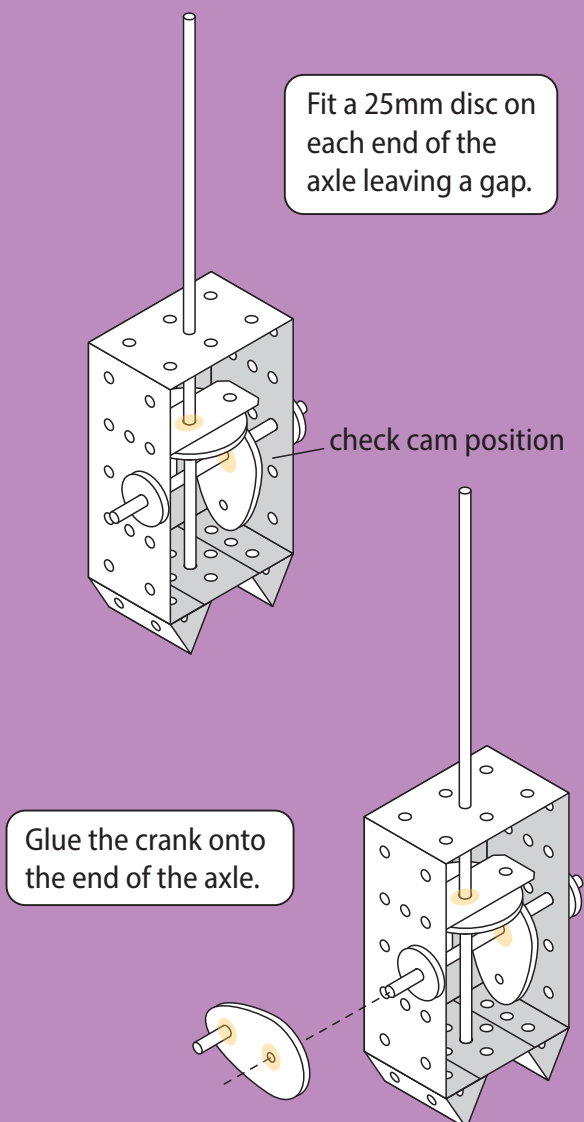
7 Assemble the long axle.



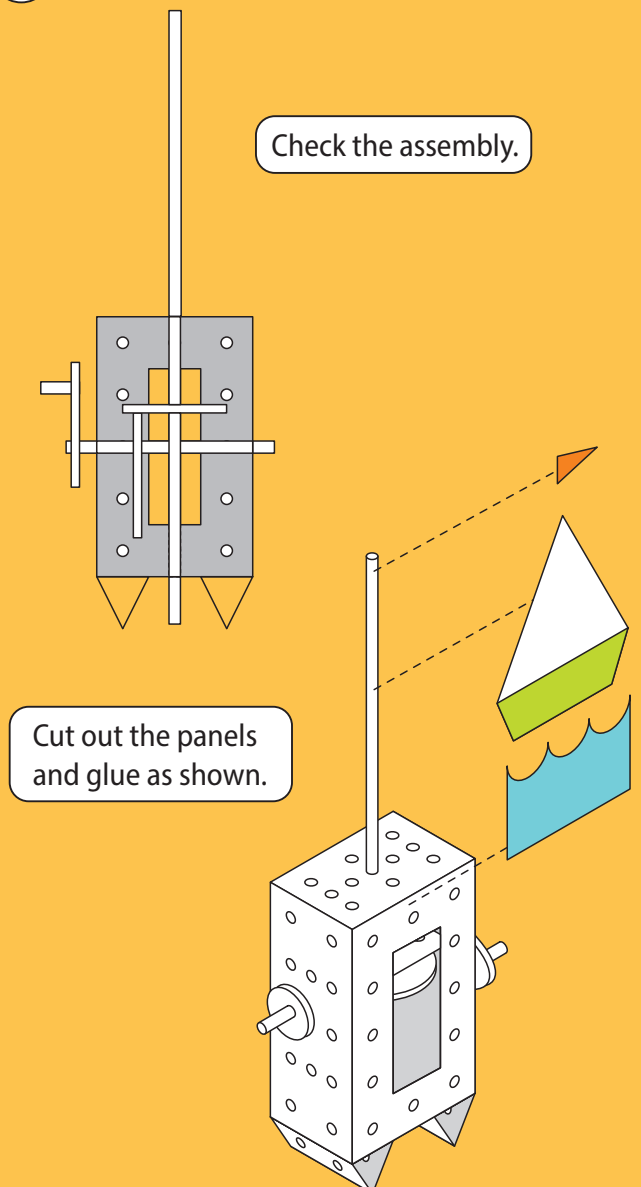
8 Fit the cam axle.



9 Finish the cam axle.



10 Finish your model.

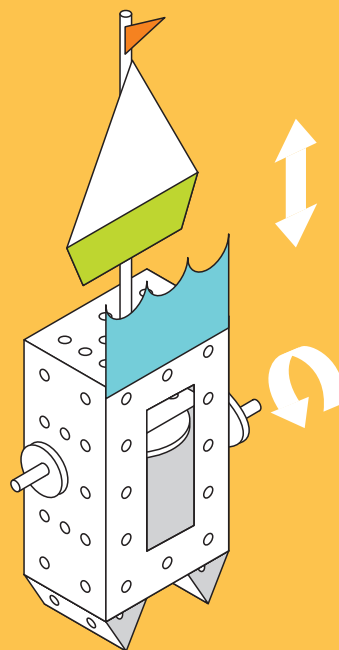


11 Operate your Cam Powered Boat.

It is important to turn the crank in the direction shown.

Turning the crank rotates the cam.
A cam changes a rotating force into an up and down force.

As you turn the crank the boat bobs up and down as it sails the rough seas.



Card Panels

Print and cut along the solid lines

Alternatively, copy the panels onto thin card and cut out in the same way.

